Subject: Orca Network comments on Orca Recovery Plan
From: Orca Network <susan@orcanetwork.org>
Date: Fri, 23 Feb 2007 10:43:20 -0800
To: Lynne.Barre@noaa.gov

Hi Lynne -

Here are our comments on the Orca Recovery plan. Thanks for all the hard work & time you have put into this effort!
Susan & Howard
Orca Network

Orca Network Comments
on the
Proposed NMFS Recovery Plan for Southern Resident Killer Whales

February 23, 2007

General comment:

~The plan covers most areas of concern, usually in a general way, allowing further refinements as more information becomes available. It is our hope that NMFS will continue to solicit input, review research results, and adjust the plan accordingly.

Habitat Use

~Include Pacific Coast to central California & related salmon runs as Critical Habitat - winter food sources/habitat.

~Address cross-border issues with BC - importance of Fraser River salmon to the So. Resident orcas.

~Include Hood Canal as critical habitat - chum runs could be important food source, may have been historic food source (compare to Dyes Inlet where the chum run provided food for SRC).

~Military Exclusionary Zones - the Admiralty Inlet region is very important habitat for SRC during fall/winter travels into Puget Sound. If the exclusionary zone is mandatory for military use, NMFS should work with the Navy to agree the military exclusionary zones exclude ONLY military activities from the Critical Habitat designation, not other federal activities (this could help protect SRC's from possible tidal energy project in Admiralty Inlet).

~Importance of Columbia/Snake River system & associated chinook runs to SRC - re-writing of Columbia/Snake River System biological assessment, to include new information on removal of Snake River dams.

Fish

~If shoreline areas were included as Critical Habitat, it would give more strength to existing protective measures in place for endangered salmon runs, & some runs (such as fall chum) that are important prey for SRC are not endangered therefore not under protection, so protecting all nearshore areas would help.

~Need for enforcement of existing regulations protecting nearshore habitat.

~Take hard look at harvest & make difficult choices. If we want salmon in our future, we need to decrease harvest levels, & set aside an allotment or quota of chinook for the orcas.

~Pacific Salmon Treaty - ask for inclusion of quota of Chinook for orcas, work with BC, Alaska, OR & CA to look at all runs important to SRC.

~Need to look at the timing & location of all salmon runs important for the SRC - which runs should be preserved/restored first as an important food source for SRC's at critical times of the year.

~Ban fish farms, or push for fish farms to be on land in tanks.

Toxics

~PBDE ban (considered).

~ Enforce existing regulations, increase fines for polluters (considered).

~Prioritize clean-ups based on location & damage to fish/orcas.

~Strengthen regulations on chemical use, ban the worst chemicals, stricter testing regulations for new chemicals before releasing them into the environment, including their interaction when mixed with other chemicals (partially included).

~Homeowner and business owner education/awareness campaign ex: Whale & Salmon friendly lawn/garden signs & info.

Education

~Add Orca Network to organizations currently providing education & awareness about the SRC. Orca Network provides current information through our whale sighting network & website on the travels & health of the SRC, up to date news, issues, events, research, & action items to help the SRC, educational events, ferry naturalist presentations, workshops, publications, & a network for discussion of issues about SRC & related topics.

~We need to change the way people think about orcas. Over the previous decades the public perception of the killer whale, now referred to as orcas, has changed considerably. In recent years scientific literature has reflected knowledge gained since field studies began in the early 1970's. However, the conventional understanding of orcas still does not tanke into account the species' observed cultural capabilities. Greater awareness of such highly evolved adaptations, without parallel except in humans according to some published authorities, could enhance public appreciation for orcas and help motivate greater efforts to protect their habitat.

~Campaign for homeowners to reduce toxic chemical use in home & garden

~Encourage approaching business owners, investors, and developers to provide background information for efforts to protect and restore watershed habitats.

Vessels

~Promote shore-based whale watching (add Orca Network to list of organizations that do this)

~Educate recreational boaters, sports fisher persons, & the maritime industry about be whale wise guidelines

~Through the Whale Sighting Network Orca Network educates boaters, increases awareness of the orcas, & creates a peer-pressure through the network that motivates boaters of all kinds to behave better around the whales - they know they are being watched & reported on. Including boaters in the Whale Sighting Network helps increase whale sighting reports, creates awareness & results in support & buy-in from the boating community to help the orcas & behave better around them.

~Orca Network encourages NOAA Fisheries to continue with the cooperative efforts with the Whale Watch Operators Association to refine Be Whale Wise Guidelines. We feel much has been done in the past few years on the part of Whale Watch operators to help create the guidelines, follow them, and continually evaluate them. We also believe a strong emphasis should be made by all Whale Watch companies to provide a good educational experience for their customers, including information about the decline of the Southern Resident population, the Orca Recovery Plan, & what citizens can do to help improve conditions for the orcas (see results of

ONBOARD MARINE ENVIRONMENTAL EDUCATION: WHALE WATCHING IN THE SAN JUAN ISLANDS, WASHINGTON by MELISSA S. ANDERSEN and MARC L. MILLER, School of Marine Affairs, University of Washington, Seattle, WA 98105, USA)

We have been impressed with the efforts of many Whale Watch operators who provide quality education to their passengers, and most Whale Watch companies have purchased large quantities of Orca Network's Orcas in Our Midst booklet to make available for their passengers. Through their efforts hundreds of thousands of people can be taught about the orcas and how we all need to work together to save them.

Noise

~Encourage use of bio-diesel and electric for all kinds of boats/vessels, as well as quieter engine technology

~Navy Sonar - include continental shelf waters for protection from sonar use; encourage mitigation of potential injurious effects; support

consideration of international accords to eliminate need for active sonar sweeps (partially included).

~Seismic Airguns, off-shore exploration along Pacific coast - upcoming tests in BC (included).

Climate Change

~Study & model effects of climate change & ocean warming on SRC, their prey & habitat, and research mitigation methods (included).

Oil Spills

~Support more effective oil spill prevention such as year around stationing of rescue tug at Neah Bay, tug escorts from entrance of Strait of Juan de Fuca, containment preparedness at loading docks, etc (included).

Reintroduction of Lolita to the Southern Resident Community

~Support reintroduction of the female L pod member called Lolita to her natal matriline. Her continued use of L subpod dialect calls indicates her retention of her natal habitat and cultural knowledge learned in her four to six years prior to capture. Wording should reflect that the example of Keiko, often used to claim that returning orcas to the wild doesn't work, overlooks the fact that Keiko was never taken to the vicinity where he was captured off the east coast of Iceland (he was allowed to swim off the south coast of Iceland, 200 miles from where he was captured) so the orcas he found, but never remained with, were probably unrelated to him. The key to any return to the ocean is to return the whale to its family, or it won't succeed. As we all know, Lolita's family is seen on a regular basis in the Pacific Northwest.

~~~~~~~~~~~~~~~~~~~~~~~~

Susan Berta
Orca Network
info@orcanetwork.org
www.orcanetwork.org
1-866-ORCANET
~~~~~~~~~~~~~~~~~~~~~~~~

February 25, 2007

Ms. Lynne M. Barre and Mr. J. Brent Norberg
National Marine Fishers Service, Northwest Regional Office
Protected Resources Division
7600 Sand Point Way NE
Seattle WA 98115

Re: Comments to Proposed Recovery Plan for Southern Resident Killer Whales

Dear Ms. Barre and Mr. Norberg:

On behalf of Friends of the San Juans ("Friends"), please accept the following comments to the Proposed Recovery Plan for Southern Resident Killer Whales (the "Proposed Plan"). As you may be aware, Friends was a co-petitioner to list the Southern Resident Killer Whales (the "Orcas") on the Endangered Species List. Orcas spend at least half of each year feeding and frolicking in the San Juan Island waters, including the most critical portion of their annual lifecycle. Maintaining the health and biodiversity of the Islands' marine ecosystem is crucial to Orcas' short and long-term survival. Friends believes that the Proposed Plan should rely on the precautionary principle to enact regulations to protect Orcas, and accordingly offers its comments on the Proposed Plan to ensure Orcas' full and speedy recovery.

General Comments

As you are aware, in developing a recovery plan under §4(f) of the Endangered Species Act, the Secretary of Commerce, here through the National Marine Fisheries Service (NMFS), must, to the maximum extent practicable, develop a conservation and survival plan that gives priority to those endangered species "that are, or may be, in conflict with construction or other development projects or other forms of economic activity." Additionally, NMFS is required to describe site-specific management actions and objectives, measurable criteria and time estimates to achieve such actions and objectives.

The Proposed Plan provides a thoughtful analysis of the current scientific data, known conditions and scientific literature about the Orcas, and did so in a timely manner. We believe the Proposed Plan correctly identifies the most significant threats to Orcas survival and actions needed to recover them from endangerment. However, the Proposed Plan lacks adequate safeguards and criteria to assess the effectiveness of the numerous on-going projects and programs on which the Proposed Plan relies for the Orcas' recovery. *The Proposed Plan does not, however provide adequate regulatory or enforcement mechanisms to achieve true recovery in a timely manner.*

We believe that the Proposed Plan's funding scheme wrongly prioritizes recovery efforts. The Proposed Plan budgets an insufficient amount of funding - only $2,285,000 - for enforcement and prevention activities for the next five years. This funding amount is distributed among projects known to be crucial to Orcas' survival. It is unclear why this amount of funding is not greater.

Compounding this inexplicable lack of funding for enforcement and prevention is that the Proposed Plan budgets roughly *six times* that funding amount for research, or $12,755,000. Friends agrees that scientific research is necessary, as is on-going monitoring of Orca populations. Yet, the Proposed Plan does not address how it would utilize this research for adaptive management or utilize it for creating new recovery actions or strengthening existing recovery actions.

In sum, NMFS must manage recovery efforts that are directly under its jurisdiction - such as directly increasing Orca prey in critical habitat and providing meaningful regulation for, and enforcement of, all vessels during peak summer months. The Proposed Plan acknowledges there is ample, credible research that indicates these issues are at the foundation of Orca recovery. Thus, these issues must be funded and implemented *now* to see how the populations respond.

Friends offers the following specific comments which we hope you will find constructive in finalizing the Proposed Plan to fully achieve the goal of de-listing the Orcas as an endangered or threatened species.

1. Nearshore Habitat Protection

Concern: Action Matrix item 1.1 appropriately addresses the need to support salmon restoration efforts of the salmon populations critical to the Orcas' diet. However, the Proposed Plan defers all tasks related to salmon restoration within the critical habitat area to the broader salmon restoration efforts already in progress, such as the *Puget Sound Salmon Recovery Plan* that was officially adopted by NOAA on January 19, 2007. The Proposed Plan makes a major assumption: that salmon recovery efforts will be successful in general, as well as successful in a timely enough manner to foster Orca recovery. The Proposed Plan only considers Puget Sound salmon recovery, and wholly ignores salmon stocks near Vancouver Island, the Washington Coast, Oregon and California.

The Proposed Plan does not provide coordination between salmon and Orca recovery efforts, nor does it provide appropriate attention to forage fish or forage fish habitat protection and restoration. Because research indicates that Chinook salmon is the Orcas' main prey in the San Juan Islands, the Proposed Plan should address Orca predation levels on area salmon stocks. The Proposed Plan should also provide more immediate protections for forage fish and forage fish habitat, the main prey of salmon on which Orcas feed. Finally, the Proposed Plan does not address the manner in which local regulatory processes, such as the Growth Management Act's mandated Critical Areas Ordinance update and local shoreline master program updates, could be further utilized to enhance Orca recover.

Recommendations:

- Coordinate recovery actions with local knowledge, existing regulatory mechanisms, and provide additional funding for local recovery efforts;

- Include Orca and pinniped predation levels in salmon recovery plans;
- Account for salmon stocks in British Columbia, the Washington Coast, Oregon and California;
- Place greater emphasis on forage fish habitat protection to support salmon recovery; and
- Place greater emphasis on non-salmon prey populations, such as forage fish.

2. Vessel Effects

Concern: Action Matrix items 1.3.1.1, 1.3.2, 1.3.3, and 1.3.4 concern impacts to Orcas from excessive numbers, proximity to, and affects of commercial whale watching and recreational vessels. These tasks are only prioritized as "2" with little funding to accompany them. We strongly urge you to prioritize these action items as "1." Soundwatch has well-documented the threat that Orcas face from whale watching recreational vessels, and the Proposed Plan's bibliography is full of citations about the documented effects on Orcas from vessel effects. Thus, there is no need to further evaluate whether regulations and actions are needed to protect Orcas from deleterious vessel effects – existing science indicates that the need is clear. If the Orcas are to recover, they need protection from vessel effects in the summer of 2007, not an undefined number of years in the future.

The whale watching industry has enacted voluntary guidelines for behavior around Orcas, but there is no regulatory power to enforce those guidelines. The guidelines, which are a good start, are full of loopholes, are difficult to interpret and provide no assurances that whale watch vessel operators actually understand or will comply with them. Additionally, the guidelines do not impose limitations on the number of commercial vessels that can be in close proximity to Orcas at any given time, or on the hours in which commercial vessels operate.

In short, the guidelines need to become regulations and need to be simplified so that there is one simple, clear regulatory distance that vessels must stay from Orcas. Based on the best available science, we believe that distance is 200 yards on the seaward side of Orcas, at all times, in all circumstances and for any type of vessel – commercial whale watching, fishing, or recreational. This distance standard will help ensure avoidance of collisions, interference with Orca communications, and will by default ensure that Orcas are less subject to the noxious air quality emissions from multiple diesel exhaust engines.

The new vessel distance guideline needs to be combined with a local no-wake zone off the west side of San Juan Island which is an acknowledged part of the "core" area of critical habitat. Additionally, a reporting scheme for whale watching boats and other commercial vessels should be required to report the numbers of passengers carried on each whale watching trip, the number of trips per day/week/month/season, and schedule a time when they are in the "zone" of viewing. This new era of strict regulation must be accompanied by a joint enforcement effort among NMFS, the Coast Guard, Washington Fish & Wildlife Department and local deputies, including the San Juan County Sheriff and Soundwatch.

Recommendations:

- Utilize existing data from the Whale Museum and Soundwatch regarding peak boater days and times to establish vessel behavior regulations [not guidelines], including:

- A ½ mile no-wake zone from Cattle Pass at the south end of San Juan Island to Turn Point on Stuart Island;
- Restrict vessels from approaching within 200 yards of Orcas at anytime; this protective barrier would follow them at all times;
- Restrict vessels from approaching Orcas on the shoreward side so that Orcas may safely swim within ½ mile of shore at all times without minimal boater disturbance;
- Other no-wake zones and speed limits as necessary to decrease incidents of collision, noise, and vessel pollution;

- Provide funding for enhanced radio communication between federal/state/local enforcement, Soundwatch, and Canadian counterparts;
- Provide more funding for existing Soundwatch and expansion of Soundwatch;
- Provide mandatory endangered species/critical habitat training for whale watch vessel operators;
- Establish a whale watching vessel registration system;
- Enable NOAA Fisheries Enforcement officers to deputize local law enforcement officers for purposes of enforcing current and future regulations; and
- Establish a joint enforcement team comprised of NMFS, the Coast Guard, WDFW, San Juan County and Soundwatch.

3. Pollution and Contaminants

Concern: Action Matrix item 1.2 does not assign a priority ranking to efforts aimed at mimimizing pollution and chemical contaminants in the critical habitat. Much like salmon recovery efforts, the contamination clean-up tasks rely on existing and future Puget Sound funding allocations to provide the necessary clean-up of critical habitat. However, the Proposed Plan does not address whether ongoing efforts are sufficient, will occur in a timely manner to support Orca recovery, or will adequately provide for cumulative impacts. The Proposed Plan and Action Matrix do not provide any performance standards, benchmarks or measurable objectives for recovery clean-up. The Action Matrix does not address the scientifically known hazards to Orcas, regulations for preventing such contaminants from reaching critical habitat area, or any additional funding that will be allocated directly to those actions. Finally, the Proposed Plan does not address impacts to critical habitat from the host of contaminants transmitted by stormwater runoff.

Recommendations:

- Prioritize and allocate funding for timely implementation of Puget Sound clean-up efforts with clear performance standards and a timeline for achievable objectives;
- Immediately ban known contaminants from the greater Orca critical habitat area;
- Investigate and regulate point and non-point sources of contaminants known to be found in Orca fat tissues;
- Coordinate with local jurisdictions adjacent to critical habitat to regulate and monitor stormwater runoff and general water quality improvement practices.

4. Enforcement of ESA and MMPA

Concern: The Proposed Plan does not provide sufficient direction to federal, state or local officials on the ways in which those jurisdictions are not preempted from regulating under the

ESA or MMPA to protect the Orcas. The Proposed Plan recommends that to the "extent practicable" inter-jurisdictional law enforcement and legal authorities should cooperate to enforce the applicable laws and regulations. The Proposed Plan also recommends that a "comprehensive legal review" should be undertaken from which recommendations for administrative changes and enforcement and prosecution standards should be made.

However, item 5.3 of the Action Matrix lists "inter-jurisdictional enforcement cooperation and coordination" as a "3" priority and provides virtually no funding, no timeline, no coordination strategy, and no mandate to achieve the enforcement goals. Further, because most local regulation is preempted by the Marine Mammal Protection Act (MMPA) it is essential that the Proposed Plan do more than simply recommend additional study. The Proposed Plan must directly guide state and local governments in the manner that vessel regulations are allowed. Without enforcement, the Orcas will continue to be harassed by private and commercial boaters whose numbers are too great, whose distance is too close, and impacts are too detrimental to the well-being and survival of the Orcas.

Recommendations:

- Actively encourage and promote whale watch viewing from the shoreline to reduce the probability of an MMPA or ESA violation;
- Immediately establish a coordinated inter-jurisdictional legal review team to advise state and local officials of the types of vessel restrictions allowed and which are not preempted by federal law;
- Enlist the Coast Guard as 'patrols of opportunity' while transiting through the critical habitat area;
- Provide funding for increased enforcement in and around the San Juan Islands during the peak summer season;
- Establish state monetary penalties for failure to comply with local, state and federal regulations;
- Coordinate new vessel regulations with increased enforcement and education efforts; and
- Enable NOAA Fisheries Enforcement officers to deputize local law enforcement officers for purposes of enforcing current and future regulations.

5. Oil Spills

Concern: The Action Matrix correctly prioritizes oil spill prevention with a "1" for top-level priority, but again relies exclusively on a few existing programs the funding for which is not secure.[1] The Proposed Plan does not analyze whether, or to what extent, those oil spill prevention programs appropriately address Orca recovery. Both the cumulative impacts of small scale spills and a catastrophic oil spill pose great threats to Orcas, but there is no indication that current oil transfer practices, tug escort requirements, or general oil shipping practices are sufficient to prevent a spill.

[1] Funding for a year-round state-of-the-art rescue tug at Neah Bay is not presently available; funding for a Neah Bay tug 200 days of the winter expires in 2008.

The Magnuson Amendment to the MMPA placed a limit on the *amount* of crude oil that could be refined east of Port Angeles as of 1977 due to the risks associated with tanker traffic in the Strait of Juan de Fuca, around the San Juan Islands and through Puget Sound. We know that over 15 billion gallons of crude passes through our public waters each year, and each tanker carries with it significant risks of a spill. Due to the potential catastrophic consequences of a major spill, a cumulative assessment of whether current refining capacities at Cherry Point, Ferndale, Anacortes, and Tacoma exceed this limitation is necessary.

Human error will continue to be a factor in the oil transporting, transferring and refining processes, so it is essential that contingency plans and geographic response plans adequately address the presence of Orcas as well as their prey and habitat protection. The Wildlife Workgroup of the Region 10 Response Team/Northwest Area Committee should be consulted in the design of a "hazing" plan in the event of an oil spill.

Recommendations:

- Require oil tanker traffic to avoid forage fish [Pacific herring] spawning areas, particularly near Cherry Point, a key foraging area for Chinooks, during spawning season;
- Require oil tankers to be tethered to tugs when passing through critical habitat areas [Haro and Rosario Straits] during Orca summer residency in the San Juan Islands;
- Perform an analysis of compliance with the Magnuson Amendment limitations on the amount of crude oil transiting east of Port Angeles; and
- Provide funding to update contingency plans, geographic response plans, and a hazing plan to include the presence of Orcas.

6. Transboundary Communication and Coordination

Concern: The federal agencies responsible for Orca protection have no direction or mandate to communicate and coordinate enforcement or protective measures. The reality is that when the Orcas swim across the U.S-Canadian border - a invisible line to the Orcas - a procedural and regulatory quagmire ensues about agency jurisdiction and the authority of volunteer and state enforcement officials. U.S. law enforcement officials and volunteers must be able to effectively communicate with their Canadian counterparts.

Recommendations:

- Set up inter-jurisdictional trans-boundary oversight body, together with interested non-governmental organizations like Soundwatch and Friends, to keep communication and coordination efforts on-going and up-to-date.

7. Tribal and Cultural Significance

Concern: The Proposed Plan does not mention the cultural significance of whales to many area native tribes. The Proposed Plan does not acknowledge NOAA's requirement to consider tribal cultural and spiritual values in §7 consultations. NOAA must acknowledge its obligations to the tribes to consider these values. NOAA must also ensure access to culturally significant resources, many of which are protected by tribal treaty rights.

Recommendations:

- Establish coordination with interested tribes to appropriately consider tribal cultural and spiritual values regarding Orcas;
- Amend final Proposed Plan to ensure access to culturally significant tribal resources; and
- Engage interested tribes in public outreach and education campaign.

8. Navy Sonar Useage

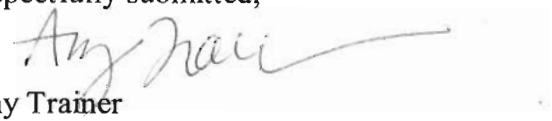
Concern: Even though resident military installations were excluded from critical habitat area, naval activities may still occur in critical habitat. Additionally, Orcas may pass through areas where naval testing or practices are scheduled or on-going, posing significant threats. An open dialogue and communication strategy must be initiated as we collectively move toward Orca recovery.

Recommendations:

- Establish a partnership with the Navy to provide Orca tracking information;
- Enter into an MOU wherein the Navy agrees to abide by best management practices when coming within one (1) mile of Orcas.

Thank you for your consideration of our comments. Please do not hesitate to contact us for more information, or with questions or comments.

Respectfully submitted,



Amy Trainer
Staff Attorney

Subject: Re: 71 FR 69101 - Southern Resident Killer Whale Proposed Recovery Plan
From: Naomi Rose <nrose@hsi.org>
Date: Tue, 27 Feb 2007 07:47:04 -0500
To: Orca.Plan@noaa.gov

Re: 71 FR 69101

Dear Chief:

I am submitting these brief comments on behalf of the more than 9.5 million members and constituents of The Humane Society of the United States. Overall, we commend the National Marine Fisheries Service Northwest Regional Office and the Southern Resident Killer Whale Draft Recovery Plan (Plan) for adequately covering and discussing all aspects of the biology, ecology, and threats facing this distinct population segment (DPS), given the current state of scientific knowledge. The available literature on killer whale biology and conservation has been adequately and even extensively searched and consulted. Finally, we believe the recovery goals and criteria, including seeing a 2.3% growth rate in the population over 28 years, are acceptable. Our concerns with the Plan are general rather than specific, a matter of emphasis more than substance, although clearly substance has been affected.

As a general matter, we believe the Plan relies too heavily on existing mechanisms, programs, guidelines, and regulations in its attempt to comply with statutory requirements for recovery plans. In addition, it relies overmuch on voluntary actions and encouragement of certain human behavior (e.g., encourage land-based viewing of whales), as opposed to mandating or otherwise regulating these actions, to achieve its goals, virtually guaranteeing that those goals will not be met within the desired time frame, if ever. Finally, the balance between recovery actions and recovery monitoring and research is unbalanced - the Plan proposes to spend about six times more money on the latter than the former in the next five years, which will leave the southern resident killer whales (SRKWs) better understood in 2011 but quite possibly in no better condition vis-à-vis their conservation status than today.

As noted above, the Plan relies heavily on already existing programs. Out of 55-60 specific recovery measures/tasks, about a third are part of on-going programs to, for example, recover salmon or prevent oil spills. If these programs were effective, the situation with the SRKWs might not be as dire as it is today. The salmon recovery programs in particular are probably not adequate - prey depletion is considered one of the more likely causes of the listing of this DPS. The Plan must consider more concrete actions above and beyond existing stock recovery efforts for all relevant SRKW prey species (particularly salmon), including the possibility of substantially reducing harvest quotas for commercial, subsistence, and recreational fisheries, increasing escapement goals for wild salmon and hatchery fish, and removing dams that obstruct salmon spawning.

The Plan also recommends a great deal of monitoring and evaluation - approximately one-sixth of the recovery measures/tasks relate to such arguably passive "actions". Certainly monitoring and evaluation of activities and data are vital to recovery of the SRKWs, but not at the expense of funding untried and/or heretofore avoided actions, such as the above-mentioned removal of dams to assist in the recovery of salmon. The precautionary principle would argue that, given the current conservation status of the SRKWs, action should be taken even in the absence of certainty (the level of which presumably the monitoring and evaluation are intended to improve).

As an example, the Plan should consider immediately replacing whale watching guidelines with enforceable regulations (including applying them to private recreational vessels engaged in whale watching), rather than waiting for the results of any evaluation of the guidelines currently in use (Measure 1.3.3, p. 169). The Plan includes a thorough discussion of whale watching, both commercial and private individual, and its potential and observed impacts - there are already alarming indications that harassment from too many whale watching and private recreational vessels is having significant negative impacts on this DPS. The Plan therefore provides ample justification for why an immediate shift to enforceable regulations over voluntary guidelines would be precautionary rather than premature. The same could arguably be said for anthropogenic noise impacts and contaminants - there are enough data to strongly suggest harm has already occurred from these threats and therefore mandating increased levels of protection rather than merely monitoring and evaluating current activity levels or the efficacy of current regulatory measures (e.g., regarding point and non-point sources of pollution) seems overdue.

In short, the main concern The HSUS has with the Plan is that it relies too much on the status quo. It thoroughly discusses all the identifiable threats, but does not recommend bold steps to effectively and immediately remediate these threats. It is, in effect, timid in its approach to the situation. As an example, the Plan clarifies that the Navy will continue to follow established mitigation protocols to avoid harassing the SRKWs by sonar and other noise-producing activity, but members of J-pod were harassed by sonar use (the U.S.S. Shoup incident, discussed on p. 109), with the U.S.S. Shoup following those very protocols. Established mechanisms to manage many human activities in the SRKWs' home range have been in place for decades, and yet the DPS is endangered. Clearly more pro-active, novel, and innovative mitigation of these human activities, including excluding them from some or all designated critical habitat and/or reducing their level of occurrence in the SRKWs' home range, will be necessary to recover the DPS.

Our only truly substantive recommendation relates to the critical habitat outlined in the Plan. We agree with those areas identified by the Plan and commend the agency for designating over 2,500 square miles as critical habitat. However, we believe that the fact that the SRKWs have frequently been found far south of Washington State - as far south as central California - in recent years argues for consideration of certain areas outside of the core area identified in the Plan. We would argue that there is sufficient current information to designate some coastal areas as critical habitat - additional research is important but not essential before doing so. The exclusion of Hood Canal should also be reconsidered.

In conclusion, The HSUS recognizes the daunting task ahead of the National Marine Fisheries Service. It must recover an apex predator species in a heavily-industrialized, economically vital region hosting a plethora of human activities long entrenched and made essential to the human population. The Plan, while on the surface addressing a suitably broad range of threats and actions, reflects the reluctance managers feel - and the significant political difficulty they face - when considering the need to upset the status quo in order to recover an endangered species whose critical habitat overlaps with valuable human territory. The agency, however, hides behind an ambitious research plan in an effort to look like it is doing something. Studying the animals is important, but not an end in itself - precautionary actions (and mandatory regulations and effective enforcement) should be undertaken immediately, even in the face of uncertainty, where common sense suggests increased mitigation of human activity is needed. Unless the agency and the Plan recommend (and implement) stronger actions, above and beyond monitoring, "encouragement", and research, and quite frankly unless more ruthless sacrifices from the region's human inhabitants are called for, the SRKWs will almost certainly not recover within the time frame outlined in the Plan.

Thank you for the opportunity to comment on this important matter.

Sincerely,

Naomi A. Rose, Ph.D.

Marine Mammal Scientist

Treaty Law, Oceans and Wildlife Protection

****
Naomi A. Rose, Ph.D.
Marine Mammal Scientist
Treaty Law, Oceans and Wildlife Protection
Humane Society International
700 Professional Drive
Gaithersburg, MD 20879 USA
Ph 301 258 3048
Fax 301 258 3082
Eml nrose@hsi.org
http://www.hsi.org <http://www.hsi.org/>
http://www.hsus.org <http://www.hsus.org/>

Friday Harbor Labs,
620 University Rd.,
Friday Harbor, WA 98250

Please consider the comments below on the Southern Resident Killer Whale Recovery Plan

The criteria for what constitutes a recovered population are inadequate. Population viability analyses found that maximum population size is a key component in determining population viability. The emphasis the recovery plan places on trend understates the potential for stochastic events.

Stochastic events are likely for this population. High toxin levels are believed to suppress immune systems, making disease outbreaks likely. The small population size limits the genetic diversity available to resist disease. Oil spills are another stochastic risk factor that can put an increasing but small population at risk of extinction.

In contrast, I recommend emphasis be placed on population size and segmentation. Many species are considered endangered even when they are composed of tens of thousands of individuals. While Southern Residents probably never numbered more than 1-2,000 individuals, a much larger population than envisioned in the recovery plan will be needed to ensure their survival. Population segmentation is another important feature of viable species. Local die-offs can extinguish populations with limited ranges, but when sub-populations are consistently widely distributed, there is potential to recover. E.g., the Fraser, Columbia, Klamath and Sacramento all once supported salmon runs sufficient to support local populations of residents. Smaller rivers also supported runs that would have facilitated occasional overlap of adjacent populations, as is still observed within the Northern Resident subspecies.

Containment of threats is another key component to conservation status. Human population growth must be managed in a way that encroachment on riverine and nearshore habitat does not reduce prey availability nor increase toxin exposure and disturbance.

Climate change may quickly offset advances in food availability. It may also lead to emerging diseases as previously non-overlapping hosts come into contact with Southern Residents. Competitors, such as bottlenose dolphins, may also reverse population recovery as a result of climate change.

Invasive species may also cause ecosystem changes capable of reversing recovery.

The low bar set in the recovery plan for what constitutes a recovered species has wider impacts. For example, Hood Canal was occupied by Southern Residents until about a decade ago. When considering critical habitat, it was not considered essential to the recovery of the species, perhaps because NMFS could imagine a population of 150 whales being reached without occupancy of Hood Canal. However, if a more widely

accepted criterion for recovery, such as at least 1000 individuals is to be reached, Hood Canal will, in fact, be essential to the recovery of the species.

When setting priorities for recovery, two factors need to be weighed: a) the time scale over which management actions can be effectively implemented; and b) the magnitude of recovery attributable to a management action.

Under ideal conditions, resident killer whales do not appear to sustain increases over 3% per year. In addition, they appear to maintain growth rates near this maximum potential rate of increase until the population reaches 90% of its carrying capacity. Since residents appear to be food limited at this time, an increase in carrying capacity of about 10% followed by a 3% annual improvement should lead to optimal recovery. The time scale and magnitude of prioritized actions should be selected with this in mind. A steady increase in the population will be needed to maintain genetic diversity at as high a level as possible.

Time scales that can be considered include short-term, medium-term, long-term, very long-term and intermittent. Noise is an example of a problem that can be addressed and result in population increase on a very-short time scale. Prey availability is an example of a factor that can be addressed on a slightly longer time frame. Even once actions are initiated, it will take years for prey to increase in number and reach a size that makes them nutritionally important. Toxins are a problem that can only be expected to improve over a long-period of time. Even though PCB's were banned over 30 years ago, they are still present in concentrations likely to affect survival and fecundity. Climate effects are likely to be even more persistent than toxins. Some problems are only expected to arise intermittently. Examples include disease outbreaks and oil spills, and the success of management will be only apparent if these occur less frequently or with less severity than predicted in the absence of action.

Regulation of noise at current levels is likely to result in a small population increase. My colleagues and I have estimated that energy expenditure was increased by about 10% in the presence of whale watching vessels due to increased travel distances. They also noted foraging effort was reduced in the presence of vessels. Thus eliminating such disturbance would reduce energy requirements per individual and increase effective food availability, resulting in an effective increase in the number of whales the existing prey base could support. Since this action could be implemented immediately, it may provide for the first few years of population growth.

Prey availability is the area where large potential benefits may be achieved. Salmon biomass in the SRKW range has probably been reduced to 5-10% of historic levels. Many species of bottomfish, which are also resident prey, have also been reduced. Restoration of prey to even half of historical levels would likely support 5-10 times the current population, and produce a population size approaching that needed for long-term viability. As mentioned above, a 3% per year increase in prey should be adequate, but allowance needs to be made for large, natural fluctuations in salmon abundance due to factors such as floods that reduce in-river survival and warm oceanic conditions that

reduce adult survival. This should be accomplished through a combination of major actions such as dam removal on the Elwha, Snake, Klamath and other rivers to allow major increases in salmon production and extensive minor restoration efforts such as stream restoration and modification of culverts to restore access to small streams.

In addition to salmon recovery, the need for which is based on scale sampling data, bottomfish and squid are known from stomach contents, so conservation of these species may also be important to recovery of killer whales.

The magnitude of the effect of toxins is unclear.

Disease is a risk factor that is inadequately addressed in the recovery plan. Like oil spills, disease outbreaks can cause catastrophic declines in population size and hence a risk to survival of the population. Also like oil spills, such events are intermittent in their occurrence. Historically, disease outbreaks were considered natural events not subject to management beyond estimating their magnitude and frequency of occurrence. However, this is no longer the case.

Diseases of terrestrial origin now affect marine mammals. Harbor porpoises within the SRKW range have been killed by *Cryptococcus gatti*, a tropical, terrestrial pathogen that has been introduced into the region. Southern Residents would not have been exposed to this pathogen under natural conditions, but it is now part of their ecosystem and should be considered to be potentially lethal.

In addition to artificially exposing killer whales to pathogens, advances in veterinary medicine allow us to treat them successfully. The capture, treatment, and return to the wild of A73 is an example of successful intervention.

Given these circumstances, more emphasis should be placed on disease management in the recovery plan. Baseline monitoring of pathogens in free-swimming killer whales and their habitat should be undertaken, and diagnosis of stranded killer whales should continue. In addition, investment in stranding facilities, transport capabilities, and maintenance of contact information for animal care experts should be undertaken. US-Canadian protocols should be in place to allow whales in need of treatment and their care-givers to cross the border with minimal delays. While many years may pass without the facilities being used, having them available when needed will significantly improve the probability of the population recovering.

Oil spills are another risk factor that can quickly have a large, negative impact on the population. Steps to better prevent spills should be on-going, and preparations for preventing exposure in the event of a spill should be undertaken immediately.

Habitat protection will be key to recovery. This includes protecting southern Puget Sound and other waters adjacent to critical habitat from additional shoreline and shallow water development, restoration of SRKW's to Hood Canal, and protection of freshwater and estuarine habitat essential to prey production.

Critical Habitat in the Pacific needs to be identified and protected. This will be an expensive and time consuming task, so funding for it should be made available as soon as possible. Since critical habitat protection applies to the condition at the time of designation, it is important that the process of critical habitat identification and designation be completed as soon as possible.

Disturbance is an area where available data are sufficient to initiate management actions. Studies of whale watching have established that vessels impact behavior with sufficient magnitude to affect the probability of recovery. While how stringent regulations ought to be is not exactly known, data support implementation of regulations stricter than the guidelines currently in place. Exposure to noise from other sources, such as sonar, airguns, explosives, pile driving, and acoustic harassment devices can also be prohibited at levels likely to cause takes. It is important to note that minor behavioral changes (changes likely to have population scale effects with prolonged exposure) have been observed at levels below 110 dB and strong behavioral changes (changes that can be life threatening in the short term in certain settings) have been observed at around 135 dB, levels far lower than currently contemplated in recent noise regulation proposals. It may be useful to consider chronic sources of disturbance such as vessels and acoustical oceanography devices separately from acute sources of high intensity noise (military sonar, etc.).

Similarly, it may be valuable to separate acute toxins (e.g., oil) from toxins that effects with long-term exposure to low levels (e.g., PCB's).

An analysis of population dynamics of transients would be extremely valuable. If toxins have an important population-scale effect, this population is likely to be in trouble as well. If transients are faring well, then it is likely that the effects of toxins on residents have been over-estimated.

An important action is to convene scientists to attempt to produce a multi-factor, quantitative model that explains population trends in Southern Resident Killer Whales. If successful, this would facilitate planning a suite of actions through time to allow steady growth of the population. I believe existing data on prey availability, toxins, disturbance and population dynamics are sufficient to justify such an effort at this time.

This should be a priority to allow initial management actions to be taken, followed by adaptive management changes as additional data on threats become available and the effectiveness of on-going management protocols is assessed. Management planning teams should involve at a minimum government officials and stakeholders involved in vessels, noise, oil, military exercises, stormwater, toxins, and fisheries.

Management actions need to be evaluated in terms of cumulative effects rather than on a case-by-case basis. It is important to cap total threats at current levels, not by the per exposure intensity of a threat. That is, if the recovery plan calls for more pristine nearshore habitat to be maintained, it is important not to approve additional habitat

degradation, even if in an individual case it appears insignificant. Similarly, reducing the intensity of noise exposure may not help much if the duration of exposure increases. It is important to note that the entire habitat in its current state is inadequate to support a viable population of killer whales, so overall improvement in habitat is needed, not tolerance of additional minor degradation.

The plan notes that some actions beneficial to killer whales would eventually be taken independently of their conservation status (e.g., clean up superfund sites, salmon restoration, etc.). Thus these actions were not included in the budget. However, it would be good to have a sense of what these other programs would cost, as well as estimating funds needed for projects for which detailed budgets are not yet available. This would allow prioritizing the other actions and ensure that adequate funds are made available for a successful recovery program. A significant increase in federal funding should be requested starting with FY'08.

More emphasis needs to placed on international efforts. The Fraser is probably the primary source of food for SRKW's at this time, and Canada has its own habitat that is critical. International sources of toxins will become relatively more important as US sources are reduced. Salmon fisheries in international waters also need to be managed. Since many of the same personnel would be involved in negotiating salmon treaties as would be involved in a killer whale treaty, it makes sense to combine these efforts.

Overall, the recovery plan was well done, and it is important to allocate funds to begin its implementation while suggested revisions are being considered.

Sincerely,

David E. Bain, Ph.D.

COMMENTS TO NOAA'S PROPOSED RECOVERY PLAN

In 2006, the southern resident killer whale population lost an additional 5 members of their population, decreasing the number of animals in J, K, and L pod to 80 individuals.

We know that there are 3 main contributors responsible for the decrease in numbers of this population: lack of fish, whale watching and toxics in the water system. We also are aware of the fact that it will take decades of international agreements and cooperation, industrial change and new laws to overcome the problem of marine pollution. Fish stocks, in particular Chinook salmon runs, are both naturally cyclical and affected by human exploitation such as over-fishing, dams, destruction of the fish's spawning grounds and toxics in the marine environment. Again, improving Chinook salmon stocks will take decades and international effort to accomplish if at all possible.

In 2006, the Thompson River (an upper tributary of the Fraser River) had a huge return, with 145K fish returning to spawn and about the same number of fish caught. Southern BC (west coast of Vancouver Island, Strait of Georgia) were down slightly from recent years (230K vs. 270K Chinook) while the Chinook in Puget Sound and along the WA coast was similar to 2005, with Washington commercial and recreational (C & R) catch was down from the previous 5 years (~57K vs. ~180K). 500K Chinook crossed Bonneville Dam (by the Columbia) in 2006 vs. 570K in 2005.

Alternately, the Coho in Puget Sound and along the WA coast lowest on record.

This shows, with the SRKW feeding on Chinook salmon from the Fraser River to the upper Columbia River that even though Chinook runs ranged from slightly lower with a much lower catch to an extremely large run, the southern resident killer whale population decreased by another 5 individuals in 2006.

The only negative anthropogenic factor we as stakeholders can improve in a very short time period is reducing the marine traffic passing and surrounding the SRKW population.

The west side core area of SJI is occupied by the SRKW throughout the spring, summer and fall. This time corresponds to most of the feeding occurring and highest salmon abundance throughout the year (Osborn 1990). It also corresponds with increasingly higher numbers of commercial and private whale watching boats surrounding and following the whales throughout the day, from 07:00 to 22:00.

The present number of whales is close to the lowest numbers seen since the 1970s. The entire SRKW are often at the same location throughout this time of year. It has been shown by numerous studies both pertaining to orcas as well as to other delphinid species that noise has a tremendous effect on the animals' ability to find and catch prey (Bain, Williams et al. 2002. At any time boats are in close vicinity of whales and their prey and the noise emitted by whale watch boats has disturbing effects on the whales' prey – dispersing groups of fish and making it much more difficult for the orca to catch their prey. Even with 4-stroke

engines, the sound produced by vessels will impact the success of the whales catching prey.

The most effective way to protect the whales is to give them more space to permit them to hunt without interference physically by boats and acoustically by engine noise.

Whale Weekends. Reserve the two least-expensive contiguous days for no commercial whale watching at all. These days will also apply to private boaters.

Shorter Days for People, Longer Days for Whales. All commercial whale watching boats back off from the dawn to dusk current operating schedule, and rather restrict trips to allow maximally two round-trips from Victoria or other locations per day combined with half-hour viewing periods, and additional time for travel, from 10am until 2pm. These hours will also apply to private boaters.

Give Them Room. At the current self-imposed 100 yard viewing limit (which is regularly transgressed), Bain's 2002 study indicates boat noise decreases the whales' sonar efficiency by 95% and more. Water carries sound much better than air, and whales need an acoustically determined distance from motors. Boat distance to the nearest whale needs to be increased to 400 yards.

Additionally, intense feeding areas require an even greater distance between boats and whales. The area from Eagle Cove ranging up to and including Henry Island should be set up to keep traveling boats at a minimum distance of 1000 yards (see Bain 2006). This will permit the whales to catch prey without the interference of the boats surrounding them – the whales typically swim in circles during feeding activity, covering up to a 1 km radius off the shoreline. The whales also use the shoreline along San Juan, Henry and Stewart Island to push prey toward the rocks for easier catching.

Boats who are in the vicinity of the whales as the whales are approaching must turn off their engines and let the whale pass by before engaging their engines again. This will ensure that the whales' directional hearing is least impacted as no sound should be coming from the direction into which the whales are traveling.

Most other countries have much more stringent boating regulations pertaining to marine mammals, especially cetaceans. Particularly mother/calf pairs are protected from boat traffic. Mother/calf pairs are particularly susceptible to interference from boats both physically and from boat noise. While a calf is nursing, the mother needs to move in a straight line to be able to nurse successfully. It was determined in captive observations that by moving around obstacles and turning the nursing activity was discontinued (Kriete, pers. obs.). By navigating around boats, this poses the same problem seen in aquaria. Therefore, there should be a mandatory distance of a minimum of 1,000 yards between any vessel and a mother/calf pair.

Limited number of boats: Bain (2005) discussed effects of boats in the vicinity of whales:

Results

- Whales spent a high percentage of time in close proximity to vessels
- Location and year were important natural factors that influenced activity state
- Vessel presence influenced activity state transition probabilities
- Whales spent significantly more time traveling when boats were within 100 m than when the closest vessel was farther away
- Whales spent significantly more time traveling when boats were within 400 m than when the closest vessel was farther away
- At the North Site, whales spent significantly more time traveling and less time foraging when boats were within 400 m than when the closest vessel was farther away
- Whales were more likely to forage and less likely to travel at the South Site than the North Site
- Pods did not differ significantly in the way vessel presence influenced activity state
- Whales were 13% less likely to remain foraging when vessels were within 100 m ($p < .05$) than when no vessels were within 1000 m.
- Whales were 6% less likely to remain foraging when the closest vessels were between 400 m and 1000 m away than when no vessels were within 1000 m, but this is not statistically different than no effect.
- Whales followed an 11% less direct path when vessels were present ($p<.001$)
- Whales made 11% sharper turns when vessels were present ($p<.01$), although this may be an artifact due to behavior differences between sites.
- Whales breathed (16%) less often in the presence of vessels ($p<.001$).
- Whales exhibited 4.78 times more surface active behavior when vessels were present ($p < .001$).
- Swimming speed increased significantly as the number of vessels within 400m increased ($p < .05$).

These results show that not only does the distance between boats and whale need to be changed, but that the number of boats need to be decreased significantly to permit that SRKW population to rebound to healthier numbers.

Permits for commercial whale watch owners as well as mandatory education for private boaters are possible solutions.

Boat traffic needs to be monitored by enforcement agencies if laws, rules or regulations are to be followed. Task No. 1.3.1.1 is insufficient as neither Soundwatch, M3, nor NMFS can issue tickets or get information necessary on scene to successfully prosecute perpetrators. Official enforcement (i.e. local task force or WSDFW enforcement) needs to be present on a daily basis. Bob Otis (pers. comm.) and Birgit Kriete (pers. obs.) have commented on the even stronger violations of keeping only 100y distance between whales and boats when Soundwatch and/or M3 leave the whales during the late afternoon/early evening. Funding needs to be assured for official enforcement.

By focusing on land-based whale watching rather than advertising boat-based excursions to watch SRKW, the economic effect of limiting boat traffic around the SRKW can be minimal. Environmentally, less boat traffic will not only benefit the orca, but also other marine mammals, increase fish availability and improve water quality for the nearshore marine habitat.

Thank you for your time and effort to save this population of killer whales. Please do not hesitate to contact me if you have any questions.

Sincerely,

Birgit Kriete.

Birgit Kriete, Ph.D.
Executive Director, Orca Relief Citizens' Alliance
P.O. Box 1969
Friday Harbor, WA, 98250
birgit@orcarelief.org
www.orcarelief.org

COMMENTS REGARDING THE PUBLIC REVIEW DRAFT OF
***Proposed Recovery Plan for Southern Resident Killer Whales*;**
National Marine Fisheries Service, November 2006

Submitted electronically on February 27, 2007 to
Chief, Protected Resources Division; 1201 Lloyd Blvd., #1100, Portland, OR 97232;
orca.plan@noaa.gov

Prepared by
Wild Fish Conservancy
PO Box 402, Duvall, WA 98019; 425/788-1167; policy@wildfishconservancy.org

Introduction.

Wild Fish Conservancy appreciates the opportunity to respond to the November 29, 2006 request by the National Marine Fisheries Service for comments regarding a proposed Recovery Plan for Southern Resident Killer Whales, listed as endangered under the Endangered Species Act (71 FR 69101, November 29, 2006). We recognize and acknowledge the time and effort devoted by NMFS staff to develop a comprehensive plan that can guide the myriad efforts that will be required to achieve and secure the recovery of the Southern Resident killer whale Distinct Population Segment, and we appreciate NMFS' efforts to engage the public in this process through stakeholder involvement and this review and comment period.

Wild Fish Conservancy has reviewed the November 2006 draft of the proposed recovery plan, as well as relevant scientific literature. Enclosed for the record and your consideration is Wild Fish Conservancy's review of the proposed recovery plan. Based on our review, and consultation with other scientists and conservation professionals, please accept for the record and your consideration Wild Fish Conservancy's comments regarding the overall adequacy/inadequacy of the proposed recovery plan, and the adequacy of recovery actions to address concerns regarding prey abundance, oil spills, environmental contaminants, and freshwater habitat conditions affecting prey abundance.

Wild Fish Conservancy represents approximately 2000 members in the region. Many use and enjoy marine and nearshore saltwater-bodies throughout Puget Sound and other areas within the range of the Southern Resident killer whale DPS for recreational, scientific, aesthetic, and commercial purposes, deriving benefits from robust killer whale and other marine-mammal populations and healthy marine habitats. Many Wild Fish Conservancy members are taking an active role in the conservation and recovery of Southern Resident killer whales and their habitats. Public and tribal agencies, scientific institutions, the business community, the environmental community, and the news media have all recognized Wild Fish Conservancy's credibility regarding aquatic and marine ecology.

On balance, we believe that the plan should not be approved due to its vagueness and the absence of specific measurable standards for addressing each of the several limiting factors. The plan notes that there are many uncertainties regarding the precise impact of each of the suspected

limiting factors on the current condition and future performance of the Southern Resident DPS, but fails to incorporate the consideration of these uncertainties into an appropriate risk-assessment framework, and fails to protect the DPS from bearing the majority of the risk that results from the uncertainties. Instead, the plan attempts to substitute a laundry list of needed research and monitoring for a protective plan of action given current uncertainties. As a result of these failings, we believe that the plan does not provide a sufficiently precautionary approach to the protection and the recovery of the DPS, contrary to requirements of the Marine Mammal Protection Act, The Magnuson-Stevens Fishery Conservation and Management Act., and the Endangered Species Act.

While we find the recovery standards, more or less, adequate (but see below) the plan provides no prospect that measurable progress toward recovery will be achieved at measurable intervals in the foreseeable future (over the next 100 years, given the life history of the of killer whales). That is, while the plan outlines a reasonable picture of what a recovered DPS may look like, it provides no prospect that recovery is likely to be achieved within the next 100 years.

Recovery Standards

The plan proposes biological criteria for delisting the DPS (declaring the DPS recovered) and for downlisting the DPS from endangered to threatened. We have concerns with some of these criteria.

Proposed Recovery Criteria.

> " 1. The Southern Resident DPS has exhibited an increasing population trend at an average growth rate of 2.3% per year for 28 years (two full cycles)."

We agree that the population data available for the Northern Resident population provides a reasonable reference for the expected performance of a recovered southern resident population and we find the considerations offered for employing an average annual growth rate of 2.3% (instead of 2.6% for the period from 1973 to 1996 estimated for the Northern Resident population by Olesiuk et al. 2005) reasonable. However, we note that there is no reason to believe that a recovered population in a healthier Puget Sound ecosystem than has existed from 1970 to the present could not achieve a sustained growth rate of 2.6% as demonstrated by the Northern Residents.

We agree that 28 years is a minimum period of reference for sustaining this growth rate and for considering whether or not the population should be considered for delisting. However, we are concerned about expressing this time period in terms of the observed periods of low and high survivals in the period of record, 1974 - 2002. Although there is considerable uncertainty as to the cause of the observed periodicity it is not unlikely that it is symptomatic of the impaired status of the population and its environment. The Northern Resident population importantly displays no similar periodicity and exhibited steady total population growth from 1974 to 1996 (Olesiuk et al. 2005). In as much as high variance in vital rates is a significant risk factor for depressed long-lived mammal populations it may be risky to employ such periodicity as a natural time indicator when the periodicity may itself be a symptom of the impaired circumstances of the population. For this same reason, we believe that a (low) variance criteria for this growth rate also be developed and included as part of the criterion.

"2. Available information on social structure calf recruitment, survival, population age structure, and gender ratios of the Southern Resident DPS are consistent with the trend observed under Criterion 1 above and are indicative of an increasing or stable population.

Quantitative measures for population parameters include:

- Representation from at least three pods,
- At least two reproductive age males in each pod or information that fewer males are sufficient,
- A ratio of juveniles, adults, post-reproductive, male and female individuals similar to the Northern Resident population model ... and,
- No significant increase in mortality rate for any sex or age class."

We have several concerns regarding this criterion. A criterion or threshold should be provided that specifies what constitutes a "significant increase" in mortality rate. We believe that at least two reproductive age males in each of a minimum of three pods is a minimal criterion for this demographic parameter for a recovered DPS. This would seem to provide a minimum of protection against inbreeding. It is always open to NMFS to revise such a criterion if and when future data becomes available to demonstrate that a weaker standard is adequate. Absent that the criterion should be stated in a straightforward risk-averse manner.

A specific criterion for maximum inter-birth interval should be provided. We are not convinced that no information is available on the basis of which to establish a risk-averse standard. The current average inter-birth interval for the DPS appears to be dangerously long (8.3 years[1]) and is significantly longer than the estimate for the Northern Resident population (currently 5.5 years, and 4.9 during the period of unrestrained growth from 1974 to 1996; Olesiuk et al 2005). In conjunction with the female reproductive lifespan, the interbirth interval determines the number of calves produced in a lifetime. This is a critical population parameter. Data provided by Olesiuk et al 2005 show that for the Northern Resident population during the period of unrestrained growth the mean age of female maturity was 14.1 and the average reproductive lifespan 24 year (mean age of female post-reproductive senescence = 38.4). Dividing 24 by the interbirth interval of 4.9 yields an average value of 4.9 calves per female that survives to reproductive senescence.
The average reproductive lifespan of Southern Resident females is essentially identical to the Northern Residents[2]. Dividing 24 by 8.3 yields an average value of 2.9 calves per female that survives to reproductive senescence. This is an alarmingly low value for a long-lived mammal. A provisional maximum value for the interbirth interval of 5.0 would appear to be a defensible recovery criterion.

---

[1] Not 7.7 years as stated in the 2004 Status Review (page 28). The Status Review states that the inter-birth interval is calculated as the reciprocal of the fecundity rate (number of recruited calves per reproductive age female) and that the latter value was estimated directly from the data as 12% (0.12). The reciprocal of 0.12 is 8.3, not 7.7.
[2] Both the 2002 and 2004 Status Reviews report only the maximum observed range in ages of mature females in the DPS (11 to 41). This is not a risk-averse value to employ for purposes of viability analysis and risk assessment. The average values more accurately depict the values that are likely to be relevant for the population dynamics of the at-risk DPS. The Recovery Plan should employ the more conservative, risk-averse value.

Threats Criteria

"Factor A:

"Objective: Ensure adequate habitat to support a recovered population of Southern Resident killer whales. Habitat needs include sufficient quantity, quality, and accessibility of prey species.

"Criteria:

"1. Observations indicating that lack of prey is not a source of mortality or a factor limiting recovery of Southern Residents. Consistent observation or measurements of good body condition in a significant number of individuals, and no or limited observations of reduced feeding behavior or recovery of emaciated stranded animals."

This criterion includes no quantitative standards by which to determine whether or not it has been achieved. What kinds of observations would "indicate" that lack of prey is no longer a limiting factor? What measurements of body condition are required, how many samples of body condition should be made within what period of time? What measurement values suffice to indicate "good" body condition. The plan must include these kinds of quantitative criteria in order to establish a threat criterion.

"2. Sufficient knowledge of the foraging ecology of Southern Residents to determine that established fishery management regimes are not likely to limit the recovery of the whales.

a. Fisheries management programs that adequately account for predation by marine mammal populations when determining harvest limits, hatchery practices, and other parameters.
b. Fisheries management programs consistent with recovery of salmon stocks and supports sustainable salmon populations."

This statement inappropriately places the burden on the listed DPS by implying current knowledge of the foraging ecology of the DPS is inadequate to determine whether established fishery management regimes may be harming the DPS and by implying that in the absence of "sufficient knowledge" of the foraging ecology of the DPS no changes in current fishery management programs are required. This fails to account for the fact that NOAA Fisheries has a positive duty to insure that current practices under its control through Section 7 and 10 of the ESA– such as current and future salmon fishery management plans – are consistent with the recovery of the DPS.

It is well-established that chinook salmon are the primary prey item and food source of both Northern and Southern Resident killer whales, at least during the summer from late May through August and that both chum salmon and chinook salmon are primary prey items in September and October (Ford and Ellis 2005, Ford et al 2005). Analyses reported by Ford et al 2005 show that mortality rates of both Northern and Southern Resident killer whale populations are significantly negatively correlated with the abundance of several stocks of chinook salmon, including British Columbia North Coast and West Coast of Vancouver Island stocks and Southeast Alaska stocks (Ford et al 2005, figures 11, A2, and A3). Neither current US nor Canadian salmon fishery management plans, nor the current Pacific Salmon Treaty, contain any specific allocation for

resident killer whales, much less an allocation from the perspective of the requirements of a recovered Northern or Southern Resident population.[3]

A recovery-based allocation of chinook and chum salmon is required in order to secure the recovery of the DPS and to adequately inform salmon recovery measures under the US ESA and Canada's SAR. The Status Review (Krahn et al 2002, page 19) provides an estimate of 800,000 adult salmon annually to sustain the DPS at its current population size, based upon the daily energetic requirements of the several age classes of individuals in the population. This estimate should be extended to a minimum viable recovered population size for the DPS and for the Northern Resident population and coast-wide US (including Puget Sound) and Canadian salmon fisheries reconfigured so as to provide a high probability that a minimum chinook population is seasonally available to both populations. Such an estimate must also be robust to the expected impacts of global warming on the Northeast Pacific ecosystem over at least the next 100 years. Achieving such a re-configuration of fisheries should be a principal objective of US negotiators to the renewal of the Pacific Salmon Treaty in 2008 and NOAA Fisheries should make it clear that it will use its authorities under Section 7 and 10 of the ESA and under the MMPA and Magnuson-Stevens Act to secure the requisite reconfiguration.

Such a revised approach to salmon fishery management plans would be consistent with the worldwide emphasis on achieving ecosystem and multispecies management of fisheries and the recently renewed Magnuson-Stevens Fishery Conservation and Management Act. Prominent examples of evolving fishery management regimes that are endeavoring to explicitly account for predation of top predators such as marine mammals in marine ecosystems include krill and groundfish fisheries in the Antarctic under the international governance of the Conventions for the Conservation of Antarctic Marine Living Resources (CCAMLR), and the Alaska groundfish fisheries in the Bearing Sea and Aleutian Islands (BSAI) and Gulf of Alaska (GOA) regions managed under the North Pacific Fisheries Management Commission (NPFMC). Salmon fisheries that likely affect killer whales should be treated no differently.

Ecosystem management of fisheries, including the need to consider the requirements of top predators is explicitly required under the Magnuson-Stevens Fishery Conservation and Management Act. There is a large scientific literature on the need to achieve ecosystem management and the issues that need to be addressed in order to do so (see e.g., Constable et al. 2000, Goodman et al, 2002, Mangel et al 2000a and 2000b, Pikitch et al 2004, Taylor et al 2000).

In addition to re-shaping salmon fisheries to account in a risk-averse manner for the recovery needs of the DPS, recovery plans for US ESA-listed salmon populations must be diligently implemented. Extant intact salmon habitats must be fully protected and impaired habitats recovered in order to secure the recovery of abundant and diverse salmon populations that in the future will be capable of sustaining ecologically sound fisheries while fully meeting the prey requirements of recovered populations of Northern and Southern Resident killer whales.

---

[3] If NOAA Fisheries has evidence to the contrary, it should provide the specific details of all relevant fishery management plans in the plan and provide and discuss the standards that support or are consistent with the recovery of the DPS that are exemplified by the plan(s). Absent such evidence the plan should clearly state and discuss the specific requirements that fishery management plans and international treaties must exemplify.

Downlisting

> "1. The Southern Resident DPS has exhibited an increasing population trend at an average growth rate of 2.3% per year for 14 years (one cycle)."

As noted under the corresponding criterion for delisting, we believe that a variance criteria for this growth rate also be developed and included as part of the criterion. A growth-rate variance criterion is even more important for such a biologically short period of time.

> "2. Available information on social structure and population structure are consistent with the trend observed under Criterion 1 above, and they are indicative of an increasing or stable population.
>
> "Quantitative measures for some population parameters:
> - Representation from at least three pods, and,
> - At least one reproductive age male in each pod."

We strongly disagree with the latter quantitative measure. One reproductive age male in each pod would be insufficient to insure that the DPS was no longer likely to become endangered. Given factors such as the cyclical nature of survival rates and calving intervals within each of the three pods of the DPS one male per pod provides far too little assurance that sufficient demographic stability has been secured, especially by a population that (via satisfying criterion 1) has recently attained positive overall growth rate for a biologically scant 14 years.

Threats Criteria

> "1. Improved understanding of the threats connected to previous population declines or that are most important to address in limiting recovery, and
> 2. Progress toward achieving the delisting threat criteria under each listing factor above, for the most important threats."

As noted under the delisting criteria, these threats criteria are too vague to provide any objective standard for determining whether or not specific threats will have been reduced "enough" to justify considering downlisting. Despite the language of threats criteria #2, the plan fails to identify "the most important threats." It has simply lumped all threats together. For both downlisting and delisting criteria, prioritized lists of threats should be developed, appropriate timescales at which the threats need to be addressed should be identified, and benchmarks (objective thresholds) for achieving measurable threat-reductions identified. These are needed in order to drive an adequately prioritized research and monitoring program directly related to the recovery of the DPS.

Oil Spills

The draft recovery plan does not mention NMFS' role in oil spill planning and response nor the roles of other federal agencies as envisioned in the 2001 "Inter-agency Memorandum of Agreement Regarding Oil Spill Planning and Response Activities Under the Federal Water Pollution Control Act's National Oil and Hazardous Substances Pollution Contingency Plan and the Endangered Species Act." The parties to that agreement are the U.S. Coast Guard (USCG),

the U.S. Environmental Protection Agency (USEPA), the Department of the Interior (DOI) Office of Environmental Policy and Compliance, the U.S. Fish and Wildlife Service (USFWS), and the National Oceanic and Atmospheric Administration's (NOAA) - National Marine Fisheries Service (NMFS) and National Ocean Service (NOS). The draft recovery plan instead relies on the proposals put forth by the Oil Spill Advisory Council (OSAC) which includes a budget of approximately $100 million over the next thirteen years.

While the proposals included in the OSAC 2006 Final Report are fine as they stand, the draft plan needs to point out that funding for the plan is dependent on the State of Washington and that funding is not yet secured. And because there are no federal agencies represented on the OSAC, this state-centered effort should be considered just one aspect of oil spill planning and response.

The recovery plan should also emphasize the following points, all of which may not be included in the OSAC 2006 Final Report:

- Establish a permanently-funded network of rescue tugs, and maintain escort tug requirements
- Limit tanker and ship operations in periods of severe weather
- Ban intentional ship discharges into Puget Sound
- Address other vessel pollution, commercial vessels, and recreational boaters.

Environmental Contaminants

Environmental contaminants are an integral part of habitat, not just for killer whales themselves, but for their prey, and the draft plan outlines how such contaminants can affect killer whales and their prey. The draft recovery plan outlines in numerous places the problems with Puget Sound's water quality:

> Marine pollutants originate from a multitude of urban and non-urban activities, such as improper disposal of manufacturing by-products, processing and burning of fossil fuels, discharge of leachate from landfills and effluent from wastewater treatment plants, agricultural use of pesticides, and terrestrial runoff... Despite [various] improvements, the presence of some chemicals (e.g., PCBs and DDE) in coastal habitats and wildlife has stabilized since the early 1990s and is not expected to decline further for decades to come. By contrast, environmental levels of many emerging contaminants, which are typically poorly regulated, are probably increasing... **Thus, exposure of the region's killer whales to contaminants is not expected to change appreciably in the foreseeable future** (pp 98, 100; internal citations omitted; emphasis added).

Given this strong statement regarding contaminant levels, we expected the recovery narrative section dealing with contaminants to outline an aggressive plan of action for NMFS and others. Instead, the draft recovery plan summarizes in general terms older state-led efforts, and ignores NMFS' more recent efforts to improve protective measures. Section V.B.1.2 2 speaks to point sources of pollution and attributes the following to the Puget Sound Water Quality Action Team's water quality management plan from 2000:

> Necessary activities include **adoption of revised water and sediment quality standards based on available information**, requiring discharge permits to cover all pollutants of

> concern, upgrading treatment systems and pretreatment programs, improving permit compliance through inspections and enforcement, and elimination of unpermitted discharges (pp 137-8; emphasis added).

These statements are fine as general goals (who besides un-permitted dischargers themselves could be against the elimination of un-permitted discharges?), but the lack of specificity amounts to a disregard of NMFS' own responsibility to work to improve conditions for Southern Resident killer whales and other listed species. NMFS and other federal agencies mapped out a method to improve water quality standards in a 2001 Memorandum of Agreement between NMFS, the US Fish and Wildlife Service, and the US Environmental Protection Agency (66 FR 11202, February 22, 2001). That MOA called for: 1) national procedures for inter-agency coordination and elevation of issues to speed decisions; 2) national consultation on existing water quality criteria for aquatic species, and a national research and data gathering plan; 3) improved consultation procedures for EPA approval of State and Tribal water quality standards; and 4) procedures for coordination with regard to State and Tribal NPDES permits (USEPA 2001). The recovery plan makes no mention of the MOA and how it can and should be used to ensure that Washington's water quality standards are brought up to date quickly in order to protect Southern Resident killer whales. NMFS and other federal agencies (e.g., EPA) have responsibilities to fulfill, not from just the MOA but in the ESA itself.

Because Southern Resident killer whales are at the top of the Puget Sound food web, protective numeric water quality criteria are very important. Washington's current numeric water quality criteria were developed using EPA's recommended criteria, and do not generally take into account the accumulation of toxins in top-level predators. NMFS should be using the framework outlined in the MOA to engage EPA and the Washington Department of Ecology to quickly enact more stringent water quality standards, specifically numeric water quality criteria that can protect Southern Resident killer whales from accumulation. Certainly one direct step would be to call for a phase-out of "mixing zones" for bioaccumulative chemicals.

Similarly, there is no mention of recent efforts of NMFS under its ESA Section 7 authority to reduce pollution sources in Puget Sound. A May 19, 2006 letter to Jay Manning, Washington Department of Ecology, from Steven W. Landino, NOAA Fisheries, and Ken J. Berg, US Fish and Wildlife Service, outlines the Services' belief that Ecology's "Draft Phase I and Phase II Western Washington Municipal Stormwater National Pollutant Discharge Elimination System and State Waste Discharge General Permits" were not adequate to protect listed salmonids:

> In conclusion, the Services expect under the proposed Phase I and II permits, that both stormwater discharged from existing development (some with no stormwater treatment at all) and new development (even with the use of structural stormwater BMPs) will over time, adversely affect the hydrology, biotic integrity, habitat elements, riparian corridors, channel morphology and connectivity, and basin conditions of the streams within the geographical bounds of the permits. The most obvious effects will be alterations to stream channels and habitat, decreased base flows, increased peak flows, and increased pollutant loading and concentrations. We anticipate that these effects will incrementally decrease the amount and quality of habitat for all life stages of listed salmonids and their prey. Without strengthening the permits, and improving other related stormwater

> programs outside the permits, we expect these adverse effects on listed salmonids will contribute to long-term declines in their numbers and distribution through negative effects to spawning, rearing, migration and foraging, and from habitat degradation...
>
> Finally, we believe that without the combination of a strengthened permit and a feasible plan for a more comprehensive stormwater strategy, more than minor detrimental effects to listed species and their habitat are likely to occur. The adverse effects (*sic*), will have both short-term and long-term effects on these already threatened salmon, steelhead, and Bull Trout populations, and their critical habitat. We believe that by our agencies working together, we can ensure that actions under your purview are not likely to jeopardize listed species or adversely modify their critical habitat.

The draft permits were issued as final by Ecology in December 2006 without making substantial changes as recommended by NOAA and USFWS in the May 19, 2006 letter. The May 19, 2006 letter did not include a "jeopardy" analysis so that word is not used but the letter does state that "more than minor detrimental effects" are likely to occur. The 2001 MOA states:

> water quality that is so poor it would likely jeopardize a listed species or destroy or adversely modify critical habitat fails to meet the fundamental requirements of the CWA (66 FR 11204).

We certainly do not disagree but believe that threshold is too low. Water quality that *does not allow for or promote recovery* of listed species does not meet the fundamental requirements of the Clean Water Act. This recovery plan appears to acquiesce to the state's efforts to reduce pollution loads, even though NMFS' own recent experience indicates that the state will not take steps to appropriately reduce pollution to Puget Sound in order to protect killer whale prey (salmonids). Both Southern resident killer whales and their prey deserve better in this recovery plan.

The Wild Fish Conservancy recommends the recovery plan set these goals to protect and restore Southern Resident killer whale habitat from the effects of contaminants and stormwater. We note that the last three bulleted items are similar to NOAA's recommendations to Ecology regarding the Phase I and II draft permits (May 19, 2006 letter):

- Cap wastewater discharges of toxics in Puget Sound at existing levels, reduce by 75% by 2020
- Phase out mixing zones for persistent, bioaccumulative toxics in discharge permits by 2010
- Accelerate technical assistance to help industry and public wastewater treatment systems eliminate toxic loading, including establishment of a Technology Center
- Accelerate toxic site cleanups in Puget Sound, with all sites clean by 2020
- Pass legislation to phase out toxic flame retardants (PBDEs)
- Begin reduction of stormwater volume, using basin planning approach
- Phase I and Phase II permits – significantly strengthen the Stormwater Manual and permits, hold agencies and local governments accountable for effective and comprehensive implementation
- Low Impact Development standards – adopt throughout the Puget Sound basin, for both new development and redevelopment

Freshwater Habitat for Killer Whale Prey: Integrating Watershed Restoration, Protection Actions, and Regulatory Functions

NMFS is relying on Shared Strategy and other state- and locally-led efforts to protect freshwater habitat. But watershed-level groups must be accountable for the plans they develop and the implementation of those plans. Restoration efforts will be less effective in watersheds where land-use plans and stormwater management will not protect habitat or maintain habitat-forming processes. State and federal agencies must be accountable by clearly stating that the proposed watershed plans are science-based and will lead to recovery.

The Wild Fish Conservancy suggests greater integration of watershed-level plans with regulatory functions. We propose a three-step plan to integrate the "bottoms-up" watershed plans with regulatory authorities and responsibilities. The plan includes a better foundation for watershed plans, a science-based review of watershed plans by agencies and scientists, and conditioning recovery funds and economic development funds on protective watershed plans.

1. Create a firm foundation for watershed-based plans:

a. Re-write Phase I and II stormwater permits on a Puget Sound-basis, as the current permits will not support recovery.

b. Mandate minimum BAS (Best Available Science) for CAOs (Critical Area Ordinances) and Shoreline Master Programs, such as "65/10/100" (65% native vegetation left, 10% effective impervious surface, 100% infiltration of post-development runoff compared to pre-development), so that a minimum of science-based protection is the core of all watershed-based plans.

c. Require integration of planning with aquatic ecosystem functions, as outlined in Ecology's publication entitled *Protecting Aquatic Ecosystems: A Guide for Puget Sound Planners to Understand Watershed Processes* (Ecology Publication #05-06-027).

d. Develop a Sound-wide monitoring/adaptive management strategy that uses physical, chemical, and biological indicators.

2. Develop, assess, and "certify" comprehensive watershed plans:

The new entity the state establishes for Puget Sound restoration should play a role in ensuring that watershed plans are complete. The necessary ingredients for plans (besides comprehensive stormwater management, land-use planning, minimum CAOs, and an outline of restoration plans) are:

a. Greater use of low impact development techniques.

b. Priority list for stormwater retrofits.

c. Minimum monitoring and adaptive management strategy including triggers for reopening watershed plans.

d. Sufficient assurances that the plan will be implemented.

A panel of scientists made up of staff from the new Puget Sound entity, Ecology, NOAA Fisheries, USEPA, WDFW, Tribes, and other scientists as needed should examine the suite of plans in each watershed (e.g., stormwater management, land-use planning, habitat protection and restoration measures) in order to ensure that habitat-forming processes are maintained and that water quality standards are met (including biological indicators). Ecology "certifies" that the watershed plan will result in attainment of water quality standards by issuance of a watershed-based permit, with conditions if necessary. NMFS gives 4(d) coverage.

3. Reward watersheds whose plans will lead to recovery:
Restoration dollars are less effective or even wasted in watersheds where land-use plans and stormwater management will not protect habitat or maintain habitat-forming processes. Greater incentives (streamlined regulatory process, greater state grants, and ESA Section 4(d) coverage) should be made available to encourage local entities to develop sufficient plans. **If plans are not going to lead to recovery, state and federal restoration and economic development dollars must be withheld.**

A way in which a science-based review of watershed-activities could take place is depicted in the attached figure. Assessment of existing land-use plans and protection (regulatory) activities would take place in the right-hand track to ensure that habitat-forming processes are maintained. Assessment of restoration plans and activities would take place in the left-hand track. Figure is from: Roni, P., editor. 2005. Monitoring stream and watershed restoration. American Fisheries Society, Bethesda, MD.

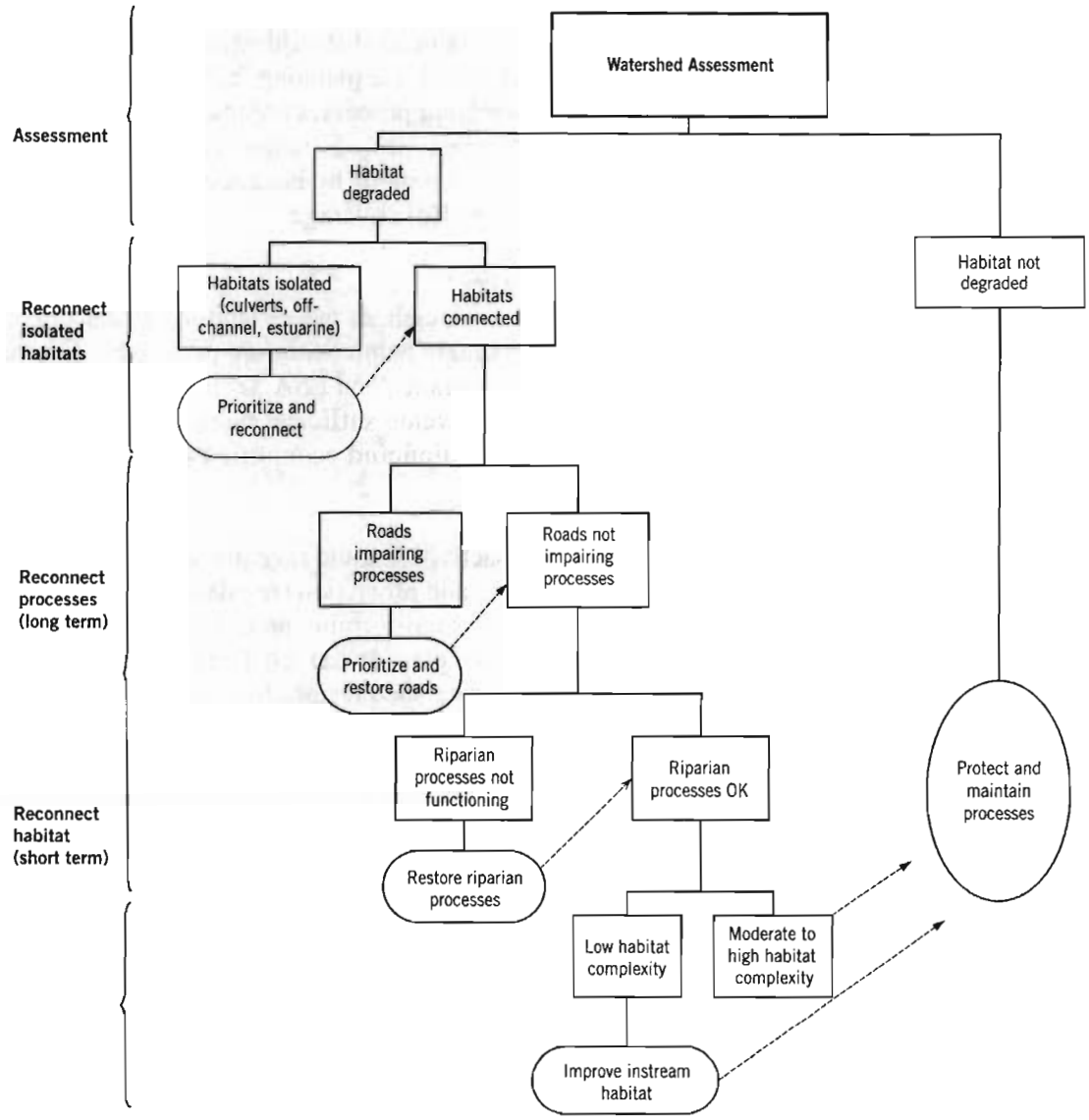


Figure 3.
Example of a strategy for prioritizing specific restoration activities developed for use in streams and watersheds in the Pacific Northwest United States (modified from Roni et al. 2002). Ovals indicate where restoration actions should take place. The strategy was developed as an initial template for prioritizing restoration, with the intent that it be modified as more information becomes available on watershed processes and restoration effectiveness or for use in other regions.

References

Constable. A. J., W. K. de la Mare, D. J. Agnew, I. Everson, and D. Miller. 2000. "Managing fisheries to conserve the Antarctic marine ecosystem: practical implementation of the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR)." ICES Journal of Marine Science 57: 778 – 791.

Ford, J. K. B. and Graeme Ellis. 2005. "Prey selection and food sharing by fish eating 'resident' killer whales (*Ocrinus orca*) in British Columbia". Canadian Science Advisory Secretariat/ Research Document 2005/041.

Ford, J. K. B. and G. Ellis, and P. F. Olesiuk. 2005. "Linking prey and population dynamics: did food limitation cause recent declines of 'resident' killer whales (*Ocrinus orca*) in British Columbia". Canadian Science Advisory Secretariat/ Research Document 2005/041.

Goodman, D., M. Mangel, G. Parkes, T. Quinn, V. Restrepo, T. Smith, and K. Stokes. 2002. "Scientific review of the harvest strategy currently used in the BSAI and GOA groundfish fishery management plans". Report prepared for the North Pacific Fishery Management Council.

Krahn, M.M et al. 2002. "Status review of Southern Resident killer whales (*Ocrinus orca*) under the Endangered Species Act. U.S. Dept. Commerc., NOAA Tech. Memo. NMFS-NWFSC-54, 133 p.

Krahn, M.M , M. J. Ford, W. F. Perrin, P. R. Wade, R. P. Angliss, M. B. Hanson, B. L. Taylor, G. M. Ylitalo, M. E. Dahlheim, J. E. Stein, and R. S. Waples. 2004. "2004 Status review of Southern Resident killer whales (*Ocrinus orca*) under the Endangered Species Act. U.S. Dept. Commerc., NOAA Tech. Memo. NMFS-NWFSC-62, 73 p.

Mangel, M., A. C. Constable, and G. Parkes. 2000a "A review of approaches to fisheries management based on ecosystem considerations, with particular emphasis on species interactions". MRAG Americas, Inc.

Mangel, M., A. C. Constable, and G. Parkes. 2000b. "Approaches to the evaluation of fisheries impacts under the ESA". MRAG Americas, Inc.

Olesiuk, Peter F., Graeme M. Ellis, and John K. B. Ford. 2005. "Life history and population dynamics of Northern Resident killer whales (*Ocrinus orca*) in British Columbia". Canadian Science Advisory Secretariat/ Research Document 2005/045.

Pikitch, E. K., C. Santora, E. Babcock, A. Bakun, R. Bonfil, D. O. Conover, P. Dayton, P. Doukakis, D. Fluharty, B. Heneman, E. D. Houde, J. Link, P. A. Livingston, M. Mangel, M. K. McCallister, J. Pope, and K. J. Sainsbury. 2004. "Ecosystem-based fishery management". Science, v.305: 346 – 347.-3

Taylor, B. L., P. R. Wade, D. P. De Master, and J. Barlow. 2000. "Incorporating uncertainty into management models for marine mammals." Conservation Biology 14:5, pp. 1243-1252.

USEPA. 2001. Fact Sheet. Memorandum of Agreement Between the Environmental Protection Agency, Fish and Wildlife Service and National Marine Fisheries Service Regarding Enhanced Coordination under the Clean Water Act and Endangered Species Act. EPA-823-F-01-003. http://www.epa.gov/waterscience/standards/factmoa.html

PUGET
SOUNDKEEPER®
ALLIANCE

February 27, 2007

Chief
Protected Resources Division
1201 NE Lloyd Blvd., Suite 1100
Portland, OR 97232

Protecting and
Preserving
Puget Sound

5309 Shilshole Avenue NW
Suite 215
Seattle, Washington
98107

P 206.297.7002
F 206.297.0409

www.pugetsoundkeeper.org

To Whom It May Concern:

The Puget Soundkeeper Alliance (PSA) has reviewed the "Proposed Recovery Plan for Southern Killer Whales (*Orincus orca*)."

The mission of the PSA is to protect and preserve Puget Sound by reducing the discharge of harmful pollutants. PSA works both in regulating stormwater discharges and enforcing the Clean Water Act. In addition, we patrol central Puget Sound by boat to identify, document and report illegal sources of pollution.

PSA's comments focus on its area of expertise – the potential threats of environmental contaminants and the related portion of the recovery action program.

General Comments

PSA is very concerned with the statement in the Executive Summary, that "there is considerable uncertainty regarding which threats maybe responsible for the decline in population or which is the most important to address for recovery." Without knowing the answers to these two key uncertainties, it is going to be quite impossible to implement the Recovery Plan and recover the Southern Residents.

We simply do not have sufficient time, resources, technology or political will to simultaneously clean up existing contaminated sites, stop ongoing sources of contamination, require stormwater to comply with water quality standards and stop the discharge of contaminants like PCBs and PBDE's before entering the food chain.

The highest priority for research must be to prioritize the threats and prioritize the actions needed to address the key threats.

Environmental contaminants

PSA's comments are provided by section.

Organochlorines and toxic elements. According to the "Chemicals in Washington State Summary Report 2003 – Toxics Release and Tier Two Emergency and Hazardous Chemical Inventory" (Department of Ecology, Publication Number 05-04-020, May 2005), 649,383

pounds of lead, 263,344 pounds of lead compounds, 644 pounds of mercury and 43.23 grams of dioxin were released in Washington State environment in 2003.

The discharge of these chemicals should be banned immediately from air and water discharges. *Contaminant levels in prey and indicator species.* This section does not discuss the sub-lethal impacts of copper on juvenile salmon or the impact of stormwater runoff on coho salmon in Longfellow Creek from the research conducted at the Northwest Fisheries Science Center.

If we are to recover Southern Residents the Plan should also look at the impact of metals and stormwater runoff on prey survival.

Recovery Narrative: 1.2 Minimize pollution and chemical contamination in Southern Resident Habitats.

PSA is concerned that this discussion does not include any site-specific management actions. It is just an incomplete laundry list of significant issues that could take years and years to solve.

1.2.1 Clean up contaminated sites.

This discussion should include the recognition that unless source control accompanies the clean up of contaminated sites, these sites will likely be re-contaminated within a couple of years and need to be cleaned up again.

1.2.2. Minimize continuing inputs of contaminants into the environment.

> 1.2.2.1 Minimize the levels of harmful contaminants discharged by industrial, municipal and other point sources of pollution.

In order to make any progress from point sources of pollution, mixing zones need to be banned and then the water quality criteria lowered for copper and other parameters. New criteria may need to be added as well for nutrients and other emerging parameters of concern. New technologies will be needed to insure compliance with water quality criteria. And, a policy of no new discharges should be implemented, as well, for both sewage treatment plants and wastewater treatment plants. Finally, permit violators must be brought into compliance or face significant fines.

> 1.2.2.2 Minimize the levels of harmful contaminants released by non-point sources of pollution.

In spite of significant advances in stormwater regulation through the permitting process, monitoring data for both industrial and boatyard general stormwater permit holders indicates that there are significant environmental problems that must be addressed because of permit holder failure to comply with the permits and Department of Ecology failure to enforce the permit requirements. In addition, stormwater must be required to comply with state water quality criteria and the benchmark adaptive management scheme eliminated from the stormwater general permits.

> 1.2.2.3. Develop environmental monitoring programs for emerging chemicals.

Not only should we monitor for emerging chemicals of concern, we must absolutely stop discharging unknown and untested chemicals into Puget Sound until we know the impact on Southern Residents and their prey.

Conclusion

Based on PSA's over twenty years of work to reduce the discharge of pollutants into Puget Sound it has little to no confidence that the elements of the Recovery Plan related to reducing pollutants will be implemented in a timely manner for Southern Residents. There is simply not enough funding or political will. And no one is in charge, responsible or liable if Southern Residents become extinct.

Sincerely,

Sue Joerger
Puget Soundkeeper

Lynne M. Barre
NOAA Fisheries, Northwest Region
7600 Sand Point Way NE
Seattle, WA 98115

Dear Lynne,

First of all, I would like to compliment you and the other authors on an excellent document you have provided for the public to review and comment upon. The depth and detail you have provided on the biological aspects of the species is first rate, and I am very impressed with the amount of information provided.

Secondly, I would like to reiterate that I was very impressed with your recent presentations to both the public and the San Juan County Marine Resources Committee (MRC) here on San Juan Island. As I stated in my verbal comments, you have navigated the "Killer whale infested waters" quite well, and survived relatively unscathed. That is quite an accomplishment — as you now undoubtedly know too well.

That said, at this point I would like to add my comments in written form for your consideration. In light of the extensive detail placed into the body of the proposed recovery plan, my comments therefore are more directly related to proposed recovery actions, research and monitoring, the proposed budget, and the philosophical nature of said budget as presented.

I would also like to add that the following comments are from me personally, and do not reflect the official position of the Center for Whale Research, of which I am currently employed.

Comments RE: Recovery Action Outline

Management Measures:

- 1.1 Salmon Restoration. I am extremely pleased that salmon stock restoration is prioritized for SRKW recovery. However, even IF every Puget Sound salmon stock were returned to health, I strongly believe the whale's survival still requires restoration and recovery of coastal U.S. and B.C. stocks to sustain the population year-round. Salmon spawning cycles dictate that the whales travel far from Puget Sound during much of the year to prey upon coastal salmon stocks (eg: Columbia River, Sacramento River, Klamath River, Fraser River, etc.). Without adequate protection of salmon stocks outside the Puget Sound "critical habitat" as defined, I feel it is unlikely the SRKW population will recover in numbers adequate to remove them from the Endangered Species list.
- 1.2 Pollution. Minimizing pollution is a critical element in the recovery salmon stocks and ultimately the SRKW population. The effort to clean up Puget Sound is a noble one, which will require both political will and a tremendous amount of resources to achieve the stated goal. I am concerned that the word "minimize" is used throughout this portion of the document, when "prevent" would be the best action to take.
- 1.3 Vessel Disturbance. I'm a bit concerned by the prolific use of the term "evaluate" when discussing disturbance to whales by vessels. There are numerous

reports already published regarding the effects of vessels on marine mammals, and therefore, in my opinion, I do not necessarily believe that continued "evaluation" is the best way to spend limited resources, particularly when the precautionary principle in my opinion would adequately suffice. I actually feel a strong case should be made for increased funding to be dedicated to educational outreach (3.1 - 3.4) and on-the-water engagement (3.2), rather than further study. I often liken the whale-watch situation in the summer months in the San Juan islands to a sports event in need of a competent, trained, honest and reliable "referee" system — much like what exists in professional sports. This referee system should primarily be there to educate and mitigate, but if direct action should be necessary, there should be a mechanism for direct intervention, and, if necessary, punishment for extremely poor behavior. I would like to add that in the past few years I have observed a dramatic improvement in the behavior of the commercial whale-watch fleet, and feel the industry should recognized for their efforts and encouraged to keep up the good work.

- 1.3.8 Restricted Areas. In my opinion, certain critical areas should absolutely be considered as key areas in the whale's core habitat and be closed off to all vessels when whales are present, much like the Johnstone Strait Ecological Reserve. The "voluntary" quarter-mile zone no-boat-zone designated along the western shore of San Juan Island was a critical victory by those of us who spent many years working with the whale-watch industry and this zone has dramatically reduced the number of whale/vessel incidents. Expansion of the SRKW's critical use areas, and perhaps mandatory enforcement of these zones, should be considered and advised.
- 3.1 - 3.4 Educational programs. As I stated above, I strongly recommend increased funding for educational and direct engagement efforts. My major concerns, however, are that too little is currently being directed to these efforts, and that the Center for Whale Research is not named specifically as a recipient of any of these funds were they to be available. The mission statement of the Center for Whale Research specifically states that we will collect detailed SRKW information and provide the information to governments, organizations and individuals. I would ask that the Center be considered a key recipient of some of the educational outreach funds were they to be available, and that more funds be dedicated to educational outreach in general. **I respectfully ask that CWR be included in the Responsible Parties section of the following category: 3.1.1.**
- 3.4.1 Solicit SRKW Reports. Soliciting and responding to reports is a critical component of the Center for Whale Research, yet no mention of the Center is given in any of the accompanying text or reflected in the responsible parties section of the budget. The Center for Whale Research has collected sighting information on the movements of the SRKW population since 1976 and continues to maintain that practice to this day. **I respectfully ask that CWR be included in the Responsible Parties sections of the following categories: 3.4 and 3.4.1.**
- 3.4.2 Solicit Stranding Reports. Again, the Center for Whale Research continues to play a major role in both soliciting stranding reports and in actual response to Killer whale strandings. Again, I would ask that the Center for Whale Research be recognized in the responsible parties section of the budget. **I respectfully ask**

that CWR be included in the Responsible Parties sections of the following categories: 3.4.2, 4, 4.1, 4.2, 4.2.1, 4.2.2, and 4.2.3.

- 4.1-4.2 Killer Whale Strandings. I would also ask that the protocols and compiled lists of cooperating agencies, organizations and individuals specifically include direct participation by the staff of the Center for Whale Research as involved parties in ALL killer whale strandings, live or dead. Secondly, I would ask that staff from the Center for Whale Research be guaranteed participation in both identification and recovery efforts for all Killer whale stranding events. During the Dungeness Spit stranding and rescue effort staff from the Center for Whale Research played a very important supporting role in both the recovery and rescue of the two whales involved, and staff of the Center continue to stand ready to help in the event of any future strandings.
- 5.2 Cooperative Research and Monitoring. I am particularly pleased to see that "professional courtesy and ethical data utilization policies must be maintained to preserve the integrity of the intellectual property of the agencies and individuals participating in the research efforts."

Comments RE: Research and Monitoring

- A.1 Continue Annual Population Census. Thank you for specifically crediting the Center for Whale Research, and recognizing that "Annual photo-identification surveys remains one of the most important activities involving Southern Resident killer whales."
- A.2 Maintain Catalog and Expert Staff. Again, thank you for recognizing the importance of the Center for Whale Research's efforts and acknowledging the importance of maintaining expert staff skilled in photographic identification. As I am personally committed to maintaining the Center's catalog long into the future, I find the second and third lines a bit unsettling, in that the Center is credited with hold the catalog since 1976, but in the very next line follows "It is equally important to keep at least one expert skilled in photographic identification of individual whales on the staff of the organization or agency holding the catalog." Call me paranoid, but this text could be misconstrued to leave a door open for other agencies to stake a claim for "the catalog," in direct conflict with (5.2) and the specific protection of intellectual property. There is no other source for this catalog, and it is my intention that the Center for Whale Research maintain this catalog for decades to come, and, God willing, to pass the catalog on to my children when they are of age of hopefully inclined.
- A.3 Standardize Results of Annual Population Surveys. Staff at the Center for Whale Research are currently actively engaged on this very subject, and in the coming year should have concrete results to share with agencies, organizations and individuals. In my opinion, the confusions in the past have occurred when agencies compete rather than cooperate. The practice of cooperation and communication in the future will likely help mitigate this problem.
- B Conduct Research to Facilitate and Enhance Recovery Efforts for SRKWs. Though I am fully supportive of SOME further research efforts, I am concerned that "research" is a Pandora's Box of sorts, with agencies, organizations and individuals all competing for funding, each with their own administrative budgets,

equipment and overhead costs, and personal projects at stake. I truly believe that at some point funding for research should decline to the the very basic long-term observations, and that the lion's share of future research funds be allocated to conservation and recovery efforts directly. That said, I am clearly of the opinion that the Center for Whale Research should be a more active player in several of the research projects out there, however I am concerned that currently the Center has received less than 4% of any available research funds allocated to date. I would expressly ask that plans and funds for further research projects include consideration of the Center for Whale Research, and that the budgets more accurately reflect the importance of the role the Center for Whale Research plays in the SRKW research community. **I respectfully ask that CWR be included in the Responsible Parties sections of the following research categories: B.1.1, B.1.2, B.1.3, B.2.1, B.3, B.3.1, B.3.2, B.3.3, B.3.4, B.3.5, B.4, B.4.1, B.4.2, and B.5.**

Comments RE: Implementation Schedule and Costs

- Above I listed several Responsible Party categories I have asked that the Center for Whale Research be included in. I recognize some of these categories are unfunded, however the Center for Whale Research will likely be participating in these efforts regardless, and it would be nice to have the Center acknowledged for it's research contributions above and beyond photo-identification.
- I fully recognize (and have discussed this with you) the conundrum of prioritizing photo-identification as a "Priority 2" as it does not directly pertain to actions that will prevent extinction. I also fully recognize and appreciate the body of the text of (A.1) clearly stating the importance of the photo-identification catalog. However, I find myself inclined to argue that photo-ID efforts are a "Priority 1" action necessary to maintain at any cost, due to the very nature that without the catalog there would be no knowledge of their decline to extinction. I would respectfully ask that (A.1) be designated a "Priority 1" action, however I will understand if it is maintained as a high level "Priority 2."

Thank you for your time and consideration of my personal comments.

Sincerely,

Kelley Balcomb-Bartok
667 Chinook Way
Friday harbor, WA 98250
(360) 378-3557

THE WHALE MUSEUM

EDUCATION • RESEARCH

PROMOTING STEWARDSHIP OF WHALES AND THE SALISH SEA ECOSYSTEM THROUGH EDUCATION AND RESEARCH

February 27, 2007

Lynne Barre and Brent Norberg
NOAA/NMFS Northwest Region
7600 Sand Point Way NE
Seattle, WA 98115

Dear Ms. Barre and Mr. Norberg:

The Whale Museum would like to thank you for your continued support of the *Southern Resident Killer Whales (SRKW)* and for the opportunity to provide comments on the Proposed Recovery Plan. This proposed recovery plan reflects a tremendous amount of work and we appreciate your efforts to consolidate current knowledge of the Southern Resident Killer Whales, threats jeopardizing their continued survival and an adaptive management approach that utilizes research and monitoring to inform and evaluate recovery actions. Please accept the following comments on behalf of The Whale Museum staff and Board of Directors.

Our comments are separated into two sections. In the first, we give our specific recommendations regarding protecting the SRKW from vessel effects and in the second, we give our broader recommendations regarding managing the ecosystem that supports the SRKW.

I: Specific Recommendation: Vessel Effects:

This is perhaps the area that The Whale Museum has the most ability to provide guidance. The Whale Museum's Soundwatch Boater Education Program has helped to develop, implement and monitor vessel compliance with the voluntary Be Whale Wise guidelines and the No Go Zones along San Juan Island since 1993. The plan has already utilized extensive data from the Museum's Soundwatch program to characterize vessel trends and SRKW use patterns. Much is known about the whales and vessel traffic in the whales' core areas along the west side of San Juan Island and North Haro Strait. The Whale Museum recommends that this area be looked at carefully and a management plan be put into action as soon as possible. In 2002 the Museum's Soundwatch program submitted recommendations to NOAA regarding the Advance Notice of Proposed Rule Making Changes for the Juan de Fuca/Haro/Rosario Straits of Washington State. The Whale Museum recommends that those same actions be considered now, without further delay, as vessel traffic control is a threat that can be much better managed than is currently being done. Recommendations are to codify current guidelines as enforceable regulations and to provide for adequate enforcement of these provisions and penalties for violations. Potential regulations might include:

1. A minimum approach distance of at least 100 meters/yards;
2. No deliberate positioning of vessels in the path of whales;
3. Operation of vessels at a slow safe speed within ¼ mile of whales;
4. Establishment of enforceable vessel restriction and speed zones, including but not limited to a no-go zone of ½ mile around Lime Kiln State Park and ¼ mile from the shore of San Juan Island from Cattle Point to Battleship Island.

In addition, The Whale Museum supports ideas to establish a reporting system for commercial whale watch vessels and commercial kayak tour companies to provide marine mammal sighting and effort information. Commercial whale watch licensing and vessel registration should also be explored.

II: General Comments and Recommendations:

Although it is agreed that multiple overlapping threats and considerations for listing make it challenging to identify immediate actions needed for SRKW recovery, it is also apparent that there are some areas that warrant immediate actions be taken. This population of whales is perhaps one of the best studied in the world with considerable baseline knowledge. Additionally, many agencies and organizations have spent several years and substantial funding studying this region's marine ecosystems and threats affecting them. Much is known about what steps need to be taken to reverse declining ecological trends and restore and protect habitat. While further research is absolutely necessary to broaden our ecosystem understanding, simultaneous implementation of direct actions is equally necessary. The adaptive management approach outlined in this recovery plan is commendable, as it demands a periodic cycle of implementation, evaluation and adjustment. This allows for some actions to be taken now, without further research; any actions taken should be systematically monitored and evaluated to determine whether they are adequately addressing the threats. As research results provide better understanding, actions can be refined as needed. We urge the planning to team to revisit areas of action that can be implemented now as further research continues.

Creation of Adaptive Management Implementation Plan:

While this plan discusses an adaptive approach, a framework to implement it is not described. Please clarify the anticipated process for an adaptive management plan and lay this out in the recovery plan. Who and how will the evaluations and adaptations to the plan be made? In addition to the newly released *Puget Sound Salmon Recovery Plan,* Shared Strategies has also produced a detailed *Draft Puget Sound Adaptive Management and Monitoring Plan* to implement the Salmon Plan. These documents should serve as a model for adaptive management recovery plans. www.sharedsalmonstrategy.org

Creation of Recovery Action Team:

Much like the Puget Sound Shared Strategies, a team of local citizens, tribes, technical experts and policy makers should be outlined in the recovery plan and then convened to implement the plan. This team would provide the needed coordination and collaboration between multiple parties responsible for the plan. A Recovery Action Team would allow for a core team familiar with the plan to make the needed evaluations and adjustments, to coordinate with new efforts and to help create and secure funding mechanisms.

Northwest Fisheries Science Center (NWFSC) Southern Resident Killer Whale Research Plan:

Clear linkage to the NWFSC Research plan needs to be explicitly stated in the recovery plan. It should be easy to see the clear channel from the recovery plan directing research needs and from the research plan providing needed knowledge and gaps in understanding driving further research. When those studies have been done, what results were derived? What priorities arise and how is funding determined?

Direct Linkage to Salmon Recovery Plan:

Clear linkage to the Puget Sound Salmon Recovery Plan needs to be explicitly stated and not just implied in the recovery plan for SRKW. Much time, energy and money was spent on this plan that engaged leading salmon, habitat and land use management experts. Many of the actions directly relate to actions necessary for whale recovery and that of their prey, their prey's prey and the needed habitats. They should be able to be implemented and evaluated side by side.

Clarification of how Critical Habitat Areas are updated:

Many comments have been made regarding the designation of critical habitat and the need to adjust those areas as more information becomes available. Please outline in the recovery plan the process, criteria, and time schedule through which adjustments to the critical habitat can be made.

Advanced Notice of Proposed Rule Making (ANPR):

Please include in the recovery plan the process for implementing proposed regulation changes. In areas in the plan where it is stated "evaluate the need to implement regulations," outline the process and time frame for releasing an Advanced Notice of Proposed Rule Making.

Re-evaluate idea of Northwest Straits Marine Sanctuary:

Scoping meetings for a Federal Marine Sanctuary in the San Juan and adjacent waters in Haro Straits were abandoned in the early 1990's due largely to lack of popular support. Over the past decade, public attitudes towards marine sanctuaries have become favorable and scientific results have shown multiple benefits of large marine reserves. Please consider revisiting the idea of a large marine sanctuary that would afford a variety of marine protections under a large federal umbrella.

Support of Existing San Juan County Efforts

The waters surrounding the San Juan Islands and Haro Strait have been identified as Critical Habitat Areas for *Southern Resident Killer Whales*. San Juan County sits at the center of this habitat area known to be a core area for this population of whales. Therefore, it is essential that the activities of residents, visitors, businesses, management agencies and local organizations in San Juan County be recognized for their potential impacts on the whales and their habitat as well as supported in their efforts and local processes to help protect and restore local watersheds and the near shore and coastal marine environments. Supporting and building upon these local efforts facilitates the immediate implementation of actions in support of SRKW recovery.

San Juan County Government: The San Juan County Marine Stewardship Area should be included in the plan under G: Existing Protective Measures starting on page 69. San Juan County needs to be more formally recognized for their considerable efforts to protect its marine resources. Specifically, in 2004 the San Juan County Government designated the entire marine waters of the county as a Marine Stewardship Area (MSA), which includes special Voluntary Vessel No Go Zones when SRKW are present. The SRKW recovery plan should recognize these Voluntary Zones as a county initiative to decrease the potential vessel impacts on whales. The San Juan County Marine Resource Committee MSA strategic planning process should also be recognized with support from federal agencies working with the county to develop and implement strategies that are consistent with the larger goals of the recovery plan. Review the San Juan County Marine Resource Committee and other County Planning and Resource Management Programs such as the San Juan Conservation District at http://www.co.san-juan.wa.us/apages/planning.asp.

San Juan Initiative: San Juan County is embarking on a new Eco-system Based Management Initiative known as the San Juan Initiative that seeks to protect ecological functions in a manner that also protects human interests such as water quality, human health, private property rights and public safety. This initiative creates a public-private partnership that focuses on the natural ecosystem of the San Juan Islands and the surrounding marine waters while creating a framework and a community forum to integrate and foster synergies from a combination of available management tools - regulatory, voluntary, incentive and educational programs. This unique initiative proposes to involve community members, leaders, scientists, and key stakeholders in defining problems, crafting solutions and then committing to act across each of these programs. It also proposes that solutions to these complex ecological problems draw on local and traditional knowledge, the experiences of those who live and work on the land, and the scientists who are experts in their fields of study. By the end of 2007, San Juan County citizens will be endorsing a

package of voluntary guidelines, regulations and incentives they helped compile to protect the ecosystem. This initiative, which focuses on community protection efforts within this critical habitat area, also needs to be recognized and incorporated into recovery plans, as it will essentially provide an inventory, strategies and evaluations of current county protection efforts.

Critical Area Ordinances and Shoreline Master Programs: The recovery plan should also take advantage of local land use management tools such as the Growth Management Act (GMA), Critical Areas Ordinance (CAO) and the Shoreline Maser Program (SMP) for protecting important habitats for a variety of fish and wildlife species at a county level. Recognizing these processes and providing technical support would ensure that measures consistent with recovery efforts were being implemented. Using information gained from their implementation and monitoring would also provide critical information that should be incorporated into the adaptive management framework for refinement of recovery strategies and further actions. Review San Juan County's CAO report at http://www.co.san-juan.wa.us/cdp/CAO_Report.pdf.

The Island Oil Spill Association (IOSA): IOSA's mission is to provide a prompt, first line of response and prevention for oil spills in the San Juan Islands and surrounding waters. IOSA is a unique community-based, private non-profit organization that provides a range of response services including initial assessment, containment and cleanup and oiled wildlife rescue. Since 1988 IOSA has been on-call 24 hours a day throughout the year. Many times it is the trained local volunteers and IOSA staff who are first on scene to spills in the San Juan County area. As this is core habitat for SRKW, it is important that IOSA be included in discussions and considered for funding for oil spill prevention and clean up. To review IOSA: http://iosaonline.org.

Friends of the San Juans: Friends of the San Juans was founded to encourage San Juan County's efforts to manage growth and protect critical ecosystems. In the over 25 years since they began, their activities have expanded to include marine studies, endangered species protection, beach and marine clean-up, shoreline stewardship, and land use and environmental regulation compliance. Friends of the San Juans has been the most active group in the San Juan area working on salmon recovery efforts. Their work mapping forage fish habitat and spawning beaches has influenced county management decisions regarding the nearshore. Their educational materials and trainings for land use developers and real estate agencies have set the bar for responsible land use practices. In addition, they take the county to task when they are not following their own environmental policies. Friends of the San Juan's can provide valuable GIS information on nearshore habitats that are essential for migrating juvenile and adult salmon in the San Juan Islands (www.sanjuans.org).

Town Stormwater Management Plans: Adequate Stormwater management is essential, especially for cities and towns that are adjacent to critical marine habitats. Reviewing town management plans such as the Town of Friday Harbor, can provide insight on how they are, or are not, able to manage current storm water issues. As population growth and development estimates around the region predict extensive growth, it is imperative that there be adequate funding to meet treatment needs. Review the Town of Friday Harbor's Storm Water Management Plan: http://www.fridayharbor.org/town%20documents/StormwaterManagementPlan/stormwaterTechmanual.htm.

Support of Regional Efforts

As the current plan states, recovery plans for SRKW's need to work in tandem with current west coast Salmon Recovery Plans, the Puget Sound Partnership and those agencies and organizations working together to implement those plans. In addition to these efforts, there are several other regional organizations whose long-term efforts directly support the protection and recovery of important habitat for SRKW and their support prey species. Undoubtedly there are many more efforts underway that should be strengthened by working in partnership. Below are a few of those efforts that we feel warrant direct inclusion within the recovery plan.

Northwest Straits Commission (NWSC): The Northwest Straits Commission provides guidance and offers resources to the marine resources committees (MRC's), with the goal of mobilizing science to focus on key priorities and coordinating regional priorities for ecosystems in the open waters, nearshore areas and shorelines of the U.S. side of the Strait of Juan de Fuca and Strait of Georgia, as well as the waters of northern Puget Sound, from the Canadian border to the south end of Whidbey Island. The NWSC principal work is to:

- Provide focus on the overall health of the Northwest Straits marine ecosystem.
- Develop and propose scientifically sound recommendations to existing governmental authorities.
- Direct and coordinate scientific, technical and financial support to the marine resources committees.

NWSC Marine Resources Committees: Over 100 Marine Resources Committee members in the Northwest Straits' seven counties are now working to restore nearshore, intertidal and estuarine habitats, improve shellfish harvest areas, support salmon and bottomfish recovery and identify and urge establishment of marine protected areas. In so doing, they are complementing the efforts of existing local and state authorities to address the many serious threats to the Northwest Straits, its natural resources and human residents. They also are helping promote initiatives at the local level. Active county participation through the MRCs is critical to the successful protection of the Northwest Straits.

Each of these groups is citizen-based, with representatives from local government, the tribal government co-managers, and the scientific, economic, recreational and conservation communities. Each MRC has specific preservation and protection actions that are pertinent to their area. Some initial projects being carried out by MRCs include surveys of marine habitats, mapping eelgrass beds, outreach and education to local communities, compiling scientific data and protecting rocky-reef fish. The Northwest Straits Commission supports the MRCs by providing guidance and resources to help them meet their goals. www.nwstraits.org

Puget Sound Action Team:
The purpose of the Puget Sound Action Team partnership is to protect and restore Puget Sound and its spectacular diversity of life now and for future generations. The Puget Sound Action Team Partnership defines, coordinates and implements Washington State's environmental agenda for Puget Sound. The Action Team partnership is the central coordinator for the state's vision and collective efforts in Puget Sound. www.psat.wa.gov

Puget Sound Partnership:
Gov. Gregoire recruited the "best and the brightest" to join the Puget Sound Partnership to make high-level recommendations on a comprehensive effort for integrating the work of local, state and federal governments with private sector and citizen efforts to protect and restore the Sound. The Puget Sound Partnership will learn and use what has worked at other large ecosystem protection efforts around the country, and will engage an extensive cross-section of Washington citizens, business and governments in recommending how to improve protection and recovery of Puget Sound and Hood Canal. www.pugetsoundpartnership.org
Washington State Ocean Policy Work Group:

The Office of the Governor created the Washington State Ocean Policy Work Group at the urging of The Pew Ocean Commission and the US Commission on Ocean Policy. Both commissions recommended a regional approach to issues of ocean resource management. "Ecosystem-based management will require thinking and acting across a geography defined by natural features rather than jurisdictional boundaries, and tackling the complex issues of ocean management effectively will require local expertise and leadership. The University of Washington School of Marine Affairs and The nature Conservancy, in partnership with NOAA, assessed whether a pilot project in the Pacific Northwest could lead to a model for regional, ecosystem-based ocean governance. They created the Washington State Ocean Policy Work Group and have produced a two volume Final Report entitled "Washington's Ocean Action Plan: Enhancing Management of Washington State's

Ocean and Outer Coast" (released in January 2007). This comprehensive "action plan" outlines specific actions that should be incorporated into recovery plans specific to SRKW. http://courses.washington.edu/oceangov/OPWG.html

Puget Sound Shared Strategy:
Shared Strategies is a groundbreaking collaborative effort to protect and restore salmon runs across Puget Sound. Shared Strategy engages local citizens, tribes, technical experts and policy makers to build a practical, cost-effective recovery plan endorsed by the people living and working in the watersheds of Puget Sound. In addition to the newly released *Puget Sound Salmon Recovery Plan,* Shared Strategies also has a *Draft Puget Sound Adaptive Management and Monitoring Plan* that should serve as a model for adaptive management frameworks for recovery planning. www.sharedsalmonstrategy.org

Further Recovery Action Recommendations

Pollution and Contaminants:
The recovery plan should take a more proactive approach suggesting specific actions that local counties and cities can do to help minimize the potential threats and listing factors. For example, counties adjacent to watersheds and marine shorelines can implement effective programs preventing toxins from getting into watersheds such as storm water management systems with solid monitoring and response programs that address point and non-point discharges. Additionally, counties and towns should explore options to institute voluntary county bans on the use of chemicals known to be toxic.

Transboundary and Interagency Coordination:
Specific roles, time schedule and processes need to be outlined in order for effective coordination to occur. The development of a regional SRKW Recovery Action Team should be established.

Researching and Monitoring:
The establishment of a robust research and monitoring plan, including time schedules and funding that feeds into an adaptive framework that has regular reporting, public presentation and comment, and periodic evaluation by Recovery Action Team members needs to be established and specifically outlined.

We appreciate the opportunity to comment on behalf of The Whale Museum. We are pleased to be working together to help recover the Southern Resident Killer Whales and their important habitats.

Sincerely,

Val Veirs, PhD
Chair, The Whale Museum Board of Directors

Jenny L. Atkinson
Director, The Whale Museum

THE WHALE MUSEUM
PO Box 945 • 62 First Street N. • Friday Harbor, WA •98250
360.378.4710 • FAX 360.378.5790 • www.whalemuseum.org

COMMENTS ON THE RECOVERY PLAN FOR SOUTHERN RESIDENT KILLER WHALES (SRKW)

In SRKW winter habitat, it is imperative that we refrain from replicating unfavorable conditions and repeating mistakes made in the orcas' summer habitat. The Vashon Hydrophone Project documented a noteworthy decline in SRKW fall/winter visits to Central Puget Sound between October 2005 and December 2006. We can only speculate that the drop-off is related to poor salmon returns here, so SRKW traveled to feeding areas with more abundant prey resources.

Because SRKW visited lower Puget Sound less often in the period from October 2005 to December 2006, they were subjected to fewer encounters with commercial whale watch boats and, thus, fewer disruptions by curious recreational boaters. Consequently, at this time it seems premature to introduce a Soundwatch patrol to the Central Sound.

Adding a superfluous boat could merely exacerbate vessel and acoustic impacts in SRKW critical habitat. Expanding shore-based education to local boating groups offers a more sustainable, non-invasive solution that minimizes ecological impact on the SRKW. I strongly urge that, prior to any expansion of Soundwatch into lower Puget Sound, thorough consultation with researcher Mark Sears should occur. With 30 years of experience, Sears is extremely knowledgeable about local boating conditions and historic patterns of boater behavior in Central Puget Sound.

Fisheries managers and salmon recovery stakeholders must be engaged in orca recovery to determine how to address the nutritional needs of salmon-dependent SRKW. Perhaps this requires allocating a portion of total Chinook catch for SRKW, and possibly allocations of other salmonids as we learn more about which runs are vital to SRKW.

Restoring salmon habitat and mitigating toxins in Puget Sound will require decades of hard work and committed effort. We cannot wait another five years to take action to protect our besieged orcas. Current commercial whale watching practices are unsustainable. Unbridled growth throughout SRKW range, beyond peak or shoulder seasons, is indefensible in designated critical habitat.

A never-ending whale watch season focused on an endangered species is inconsistent with orca recovery. Rather than continually expanding its ecological footprint, the whale watch industry should vigorously seek ways to minimize its impact. Our goal should be fewer, quieter boats spending less time targeting the SRKW. Fewer commercial boats around the SRKW would likely result in fewer recreational boats stalking the SRKW.

Seasonal limitations on boat-based whale watching could be established now, as could reasonable limits on time spent watching SRKW and limits on approach distances in sensitive areas -- e.g., where SRKW might be calving, resting or foraging.

Implementing ship-quieting technology and switching to alternative, non-polluting fuels like biodiesel would help the SRKW now. During peak season, limited entry through scheduled days off, reducing the number of boats and hours spent whale watching per day could afford the SRKW some relief immediately.

I urge NMFS to revisit the recent decision to exclude some key areas from SRKW critical habitat The confirmed sighting of K Pod members off San Francisco in January 2007 accentuates the importance of designating the Olympic National Marine Sanctuary and other Pacific coastal areas as critical habitat for SRKW.

We must strive to protect and restore areas of critical habitat historically used by SRKW, including all Puget Sound waters and Hood Canal. The proposed military exclusions must be further refined, as they are still too broad and nonspecific. Tidal energy projects proposed for the Tacoma Narrows and Admiralty Inlet must undergo comprehensive review for their environmental impact on SRKW and all marine life.

Nearshore waters shallower than 20 feet must be included in the critical habitat designation. Not only are these waters vital to SRKW prey resources, but SRKW commonly use the shallow nearshore at locations like San Juan Island's Lime Kiln Park, Colvos Passage, and the east side of Vashon-Maury Island from Dolphin Point at the north end to Piner Point at the south end, including Point Robinson and the Glacier Northwest gravel mine site.

Thank you for your consideration of these comments.

Sincerely,
Ann Stateler
Vashon Hydrophone Project Coordinator
Vice President and Conservation Chair, American Cetacean Society/Puget Sound Chapter

2/27/07

Comments on Proposed Killer Whale Recovery Plan

Rob Williams[1, 2] & Erin Ashe[2]

1 – Raincoast Conservation Society, Pearse Island, Box 193 Alert Bay BC V0N 1A0 Canada (rob@raincoast.org; +1 250 974 7103)
2 – Sea Mammal Research Unit, Gatty Marine Laboratory, St Andrews Fife KY16 8LB Scotland (rmcw@st-andrews.ac.uk; ea84@st-andrews.ac.uk)

General comments

The proposed Southern Resident Killer Whale (SRKW) recovery plan (NMFS 2006) provides an excellent summary of the status of the SRKW population and outlines a very sensible research plan. Of course, the science on these topics is progressing rapidly, and many relevant papers have been published since this draft was released. Overall, our concerns are that: (1) the relationship between vessel traffic and whale behaviour is clearer than this draft would indicate; (2) there is inadequate attention paid to the need to place priority on non-invasive techniques over potentially invasive ones; and (3), while we agree that it is premature to speculate on the synergistic effects of stressors on the population, we can and should be thinking about interdisciplinary studies, and choosing management/mitigation actions that confer multiple conservation benefits to the whales over projects that provide only one piece of information or address one risk factor. We have classified our comments below into those three categories, but our strongest recommendation is for a **sensitivity analysis** to prioritise among all of these proposed research projects: studies on factors that are shown to have high power to explain variability in population dynamics should be funded over studies that aim to provide increasingly precise estimates of relatively unimportant parameters.

1. *Boats.* We recognise that this is a particularly contentious topic. It also represents a particularly attractive management option because it is so much easier and faster to manage than toxins and prey availability. But there is so much compelling evidence linking boats to short-term behavioural responses of cetaceans worldwide, and more recently, some strong evidence linking cetacean-watching tourism to long-term dynamics of some dolphin populations (see recent work by Bejder, Lusseau etc), that it seems only sensible to act as though repeated disturbance is a problem until there is compelling evidence to indicate otherwise. Two recent studies on northern resident killer whales (NRKWs: Williams, Lusseau & Hammond, 2006; Williams & Ashe, 2007) and one on SRKWs (Bain *et al.* 2006) are worth including in this report.

We expect that there will be people challenging the "boats bother whales" conclusion, and they will present results of competing studies with null findings as evidence that the jury is still out on the vessel-impact issue. It should be pointed out that all of the vessel-impact studies published to date are showing similar findings – that some behaviours do change reasonably consistently in the presence of boats (such as path directedness), and others do not (such as dive time or rates of surface active behaviour). Even for the path directness parameters, it is possible to generate a null finding. We designed and conducted a study on NRKWs (with funding from Northwest Fisheries Science Centre) in

summer 2004, in which focal animals were monitored from shore, with no boats around, and then monitored as either few (1-3) or many (4-17) experimental boats approached the focal whale within 1000m (Williams & Ashe 2007). As predicted, when the focal animal was approached by 1, 2 or 3 boats, the whale adopted a less predictable path than it was following immediately before the boat(s) was present. When several boats approached, the whale actually followed a *more* direct path than it was following before the boats were present. When all of these experimental treatments were pooled, that is to say if we had simply compared the whale behaviour in the presence (1-17 boats) versus absence of boats, the *average* of these two opposing avoidance responses would have cancelled one another out. In other words, there are several ways to interpret null findings: we see vessel traffic as a continuum along which whales respond or do not respond in a cost-benefit decision-making framework. This is the third in a series of theodolite tracking studies on NRKW to demonstrate that behavioural responses of these whales to boats are small, but real (Williams et al. 2002a, 2002b, Williams & Ashe 2007).

Given the ubiquitous nature of boat traffic around Southern residents, it will be next to impossible to design and conduct such experiments in Haro Strait in summer months. And given the multivariate nature of whales' responses to boats, we should expect that there will be scenarios in which studies can be conducted with boats and SRKWs that produce null findings. Specifically, boats that approach whales in boat-tolerant activity states, or multiple boats approaching whales simultaneously, may fail to elicit a response. Similarly, whales may fail to respond to boats by altering respiration rate. Those studies should not be interpreted to mean that (a) boats do not disrupt whale behaviour (because boats can alter path directness parameters, or speed, or acoustic behaviour, or other unmeasured behavioural parameters), or that (b) science is producing conflicting results.

Data from opportunistic observations of SRKWs analyzed with statistical models to hold confounding effects (such as date, time, age, sex etc) constant, have shown similar relationships between boat traffic and SRKW behaviour as those reported from the NRKW studies (Bain *et al.* 2006). The only issue remaining is one of scale. But the three-season, land-based vessel interaction study on SRKWs provides reasonable confidence that boats are influencing SRKW behaviour (Bain *et al.* 2006). Directions for future research should reflect the fact that this study has taken place, and already has reported some clear findings. Future research should address whether boat-avoidance activities carry energetic costs to whales, and assess how much of the day and year that they are exposed to boat traffic.

All of the studies described above describe results from theodolite tracking of fine-scale behaviour of focal animals. They are typically restricted to studies on well-marked and easily identifiable (that is, usually adult) individuals, and are often restricted to animals engaged in travel/forage activity for ease of tracking. A recent study on NRKWs assessed the impact of repeated disturbance on overall activity budgets (Williams, Lusseau & Hammond, 2006). Coarse-scale observations of all animals in the study area, in all activity states, yielded some interesting findings. The most relevant of these findings is that whales are less likely to alter their activity state when engaged in travel/forage activity. They may engage in subtle, boat-avoidance behaviours that reduce

their efficiency at swimming from Point A to Point B, but they are not likely to switch from a travel activity state to, say, resting, because a boat is around. In contrast, whales engaged in "what looks like feeding (WLLF)" activity DID show a tendency to switch out of that activity state into travel/forage mode when boats were present. Overall, that resulted in an activity budget in which whales spent more time "feeding" in the absence of boats than in their presence (Williams *et al.* 2006). One of the most important aspects of that study in the context of the SRKW recovery plan is that the vast majority of boats in that study were commercial fishing vessels, not whalewatching boats (Williams *et al.* 2006). Our point is that habitat degradation, repeated disturbance from anthropogenic activity generally, was driving this effect, not whalewatching traffic. The lessons here for SRKW studies are many. First, vessel-impact studies on SRKWs may fail to detect subtle avoidance responses if they target whales that are traveling. Secondly, the energetic consequences of boat avoidance may pale in comparison to the cost of reduced prey acquisition. This deserves closer attention, although preliminary studies on SRKWs have shown a similar tendency for whales to stop "feeding" when in the presence of boats than in their absence (Bain *et al.* 2006).

This activity state, "what looks like feeding," has been called feeding by various researchers for decades (see early studies by Hoelzel, Heimlich-Boran, Felleman etc cited in NMFS 2006). It is typified by fast, non-directional swimming. It may not always indicate feeding, and conversely, prey capture has been detected in activity states that would not be called feeding based on conventional definitions (see comments in recent reports by Baird & Hanson cited in NMFS 2006). But clearly, killer whales are capturing prey when in the activity state that researchers have traditionally called "feeding" or "travel/forage." It was a good enough definition to serve our purposes for decades. It is probably not a good definition enough any more, and prey sampling studies that provide direct evidence of predation should be continued. But this finding (Williams *et al.*, 2006; Bain *et al.*, 2006) is important for two reasons: (a) there's evidence that NRKW and SRKW are most vulnerable to disturbance while they are doing "what looks like feeding;" and (b) there is circumstantial evidence that it actually does indicate that whales are looking for and/or finding prey. That has the potential to affect fitness, especially given indications that resident killer whale populations may be food-limited.

We believe that future research, and any management/mitigation measures adopted while those studies are implemented, should reflect the fact that SRKWs are thought to be particularly vulnerable to boat-based disturbance while engaged in feeding activity.

> V. RECOVERY PROGRAM, **A. Recovery Action Outline** MANAGEMENT MEASURES
> 1.3 Minimize disturbance of Southern Resident killer whales from vessels.
> 1.3.1.2 Evaluate the relative importance of shipping, ferry, fishing, research, military, and other vessel traffic to disturbance of killer whales.
> 1.3.3 Evaluate the need to establish regulations regarding vessel activity in the vicinity of killer whales.
> 1.3.4 Evaluate the need to establish areas with restrictions on vessel traffic.

In our opinion, items 1.3 and 1.3.4 are high priority. Our concern with 1.3.1.2 is that it will require an enormous amount of study to partition a small, variable, difficult-to-detect statistical effect into its component parts. That will be difficult. It may be simpler to

assume that all boats carry equal weight, and as identified in 1.3.3, regulate all vessel traffic around whales (except under permit). The vessel exclusion zones referred to in 1.3.4 should be placed in areas primarily used by whales for feeding (see below).

2. *Potential impacts of the proposed research itself.* All other things being equal, non-invasive techniques should be preferred over invasive techniques. The research outlined in Section V (Recovery Program) itself would represent a number of additional boats following whales around. All of the research identified is interesting. But some of the projects will yield more useful and important results to aid in recovery than others. We believe that justification for such projects should include, at a minimum, some modelling to assess whether a result could be large enough to justify invasive work. Let us illustrate this point using an extreme example. There is currently some uncertainty about how much wild killer whales weigh – this basic piece of information is crucial to energetics calculations, but it relies on extrapolation from captive killer whales, or reliance on Bigg & Wolman's 1975 equation relating weight to length. But no one would suggest that we ought to corral southern resident killer whales, put them in slings, and weigh them. The question about mass of free-ranging whales (more precisely, our uncertainty about that) is simply not important enough to justify the invasiveness of the proposed research. Instead, it would be great to fund some photogrammetric studies that explore growth of free-ranging SRKWs and better studies on captive animals (see e.g., Pitman *et al.*, 2007). We would like to see some generic endorsement in this recovery plan that, all other things being equal, the importance of the question should determine the invasiveness of the research that we are willing to tolerate.

Some of the concerns that we have with the research plan of this document are recurring. Information on distribution, for example, can be obtained using passive acoustic monitoring. We would prefer to see a suite of fixed hydrophones (or pop-ups, such as those developed by Dr. Christopher Clark at Cornell University) over equipping SRKWs with satellite tags, for example. Similarly, a number of studies recommended under "Research and Monitoring" may involve biopsy sampling. Presumably efforts will be made to coordinate efforts, to share access to samples and to archive unused portions such that individuals are sampled as infrequently as possible. This is, no doubt, implicit in the US permitting process (with which we are unfamiliar), but it would be good to see that preference stated explicitly. Finally, we advocate directed studies that test hypotheses that are themselves posed as outcomes of models using existing data. We would like to see a strong, overarching endorsement for analysis of existing data over collecting new data that involves additional boats around SRKWs. Having several concurrent projects taking place on fewer vessels would keep whale-oriented vessel traffic to a minimum and serve to enhance collaboration.

One recent study illustrates what we mean by our call for model-driven hypothesis testing using existing data (Lusseau *et al.* 2005). In that study, interannual variability in the grouping behaviour of NRKWs was correlated with interannual variability in relative abundance of chinook salmon in Johnstone Strait, but not with the other four salmon species in the area (Lusseau *et al.* 2005). We think that there are several similar studies that can be done using long-term datasets (collected by Center for Whale Research and

Soundwatch, among others) on killer whale behaviour, habitat use, *e.g.*, which should be done before, or at least in addition to, funding new field research on foraging behaviour and habitat use. Similarly, the theodolite tracking data collected by the land-based vessel interaction study (Bain *et al.*, 2006) could be put into a GIS framework to explore fine-scale habitat use. This document (NMFS, 2006) is not the place for such specifics. But it is the case that that document could emphasise that priority should be placed on analysis of existing data, when such data and analyses can answer or prioritise important research questions, over collection of new data.

Another non-invasive, data-driven study that can be developed is an evaluation of seasonal availability of salmonid prey. In item 1.1.1.3, attention is paid to hatchery fish, for example. One of our concerns for SRKWs is not only absolute number of fish returning, but also the number of months in which salmon are available. As spawning habitat is reduced, small fall and spring runs may be reduced, and hatchery fish, available for a short season, may make some months particularly challenging ones for whales.

Overall, we encourage the use of sensitivity analyses to assess how much of the interannual variability in SRKW population dynamics can be explained by plausible ranges of values in prey, habitat, vessel disturbance, toxins and other factors. All other things being equal, priority should be given to studying factors that have the potential to elucidate cause(s) of declines, and/or improve the conservation status of SRKWs.

3. *Synergistic effects and Management.*

We concur entirely with the sentiment on page 115 that it is currently difficult to assess whether multiple factors may be causing cumulative (or more precisely, synergistic) impacts on SRKWs. While we agree that it is premature to speculate on the synergistic effects of stressors on the population, we can and should be thinking about interdisciplinary studies and management/mitigation tools. We would like to see those linkages spelled out clearly in, for example, Section II, G. Table 6, p 74, in which boats, prey and habitat are all factors that have high likelihood to affect SRKW recovery. We see a lot of overlap among these three factors, and among studies to assess the influence of these factors on SRKW recovery. We would like to see an explicit call for these factors to be explored in interdisciplinary studies. See Figure 1 and its lengthy caption for an expanded explanation of this issue.

We were pleased to see attention paid to the abstract, but very real threat of an oil or fuel spill in SRKW habitat and could not agree more with the emphasis placed on this important and often overlooked risk-factor. The recovery plan is absolutely right in pointing out that one catastrophic event such as an oil spill can make all of the recovery efforts redundant. In our 12 years of studying northern resident killer whales, we have never seen all members of that population in the same area at once. But J, K, and L pods spend considerable time either within miles or tens of miles of one another, which makes the risk of a catastrophic event far higher for SRKWs than for NRKWs. Similarly, there is evidence to suggest that a targeted removal of closely related individuals can compromise the integrity of the social network of the individual whales left behind (Williams & Lusseau, 2006). It is good to see attention paid to oil spill prevention and

response in the recovery plan. However, we note that no funding is attached to that item. We are concerned that the plan is possibly too optimistic with regard to the current state of oil spill prevention and response in Washington State waters. This optimism is reflected in recovery tasks and associated budget in which oil spill prevention and response is listed as 'Priority 1', but as yet oil spill prevention and response has no budget associated with this task. The $1.4 million/year dedicated to maintaining a single rescue tug in Neah Bay on a seasonal basis is not sufficient to respond to oil and/or fuel spills from tankers or vessels adrift with fuel in offshore waters or the inshore waters under the best of conditions. In fog, rain or rough sea conditions, it could take a tug considerable time to transit anywhere in Washington State waters from Neah Bay, which is one of the remotest locations in Washington State. Catastrophe is one of the major causes of extinction to populations historically. Perhaps a portion of the budget could be dedicated to ensuring adequate response and prevention by employing and additional tug. In addition formal inter-agency and on- the water manager coordination with the rescue tug could be established. It should also be ensured that oil spill responders are adequately equipped with non-chemical response tools for oil spill response in killer whale habitat.

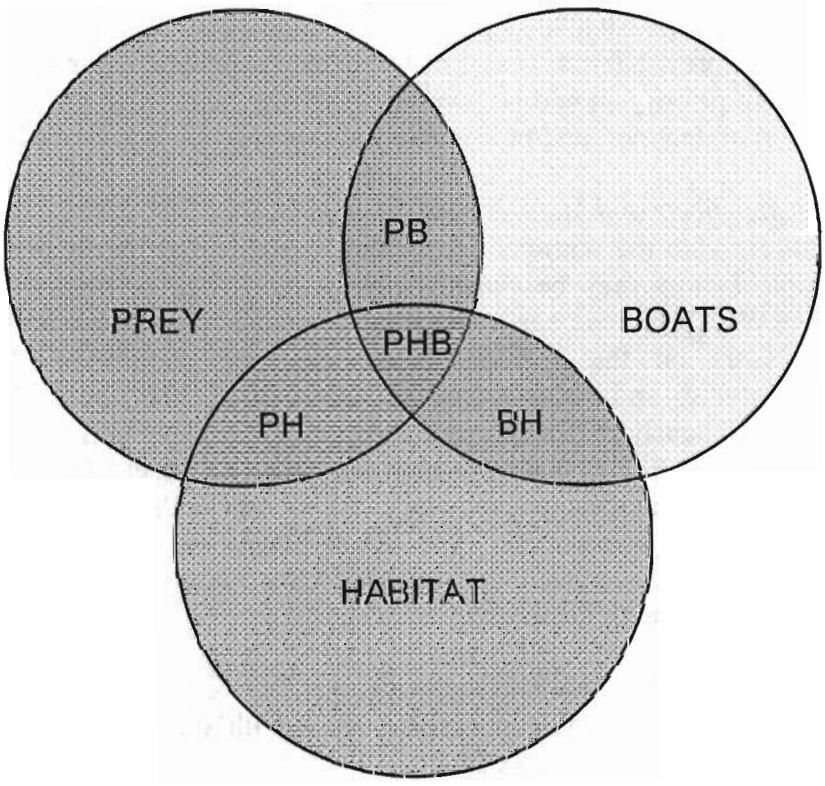


Figure 1. Linkages among prey, habitat and boats as factors that may influence SRKW recovery. Sections B1 and B2, for example of the "Research and Monitoring" section of the plan, point to the need for information on SRKW distribution and diet (labelled PREY and HABITAT in the diagram above). Obviously, it would be useful to combine these two studies, so that we see not only what they eat, but also where they eat it (labelled PH on the diagram above). In other words, not all habitat is equally important to whales. Identifying whether prime foraging habitat exists would be especially helpful from a

recovery perspective, because it would be more important to protect a feeding hotspot than a patch of water that whales use as a travel corridor. This is for two reasons: not only does feeding activity link more closely to animal fitness than travel, but also because all available evidence suggests that whales are more tolerant of boats while whales are traveling than when they are feeding. In this way, studies of Prey and Boats are intrinsically linked (labeled PB on the diagram above). Similarly, Boats and Habitat should be studied together (BH), because it makes sense to manage boats spatially. There are a variety of options to address vessel activity in sensitive areas for SRKWs, including fixed seasonal restrictions, restrictions when whales are present, or restrictions for whale watching vessels only. Many commercial operators and private boaters already adhere to the voluntary closure of an area off western San Juan Island that is used preferentially by the whales for feeding, traveling, and resting. Evaluating this site will help to determine if area vessel restrictions are effective and whether additional voluntary or mandatory areas should be established. Criteria for selecting areas should be supported by research on habitat use (Task B.7) and vessel impacts (Task B.6.2). One model for how to identify and mitigate impacts of boat-based tourism that targets cetaceans is found in New Zealand, where a number of dolphin-watching tours focus on bottlenose dolphins. There, Lusseau (2003) measured behavioral responses of bottlenose dolphins to boats in Doubtful Sound, New Zealand, and discovered that the animals were most vulnerable to disturbance when resting or socializing. Lusseau and Higham (2004) then mapped how dolphins used their habitat and outlined a conservation plan to protect preferred resting habitat. We believe that this provides a powerful model for how to identify the kind of habitat (namely foraging hotspots) to protect in order to confer greatest conservation advantage to southern resident killer whales. The recovery plan suggests that the existing exclusion zone off western San Juan Island is used preferentially for feeding, resting and traveling. Given that this exclusion zone seems to be used for 3 out of 4 commonly named activity states in the animals' repertoire, it is unclear how it can be preferentially used for nearly everything. Identification of foraging hotspots, if they exist, should be a high priority. Long-term datasets should be explored to assess whether these hotspots persist from one year to the next, or are ephemeral. We suspect that they are persistent – fishermen catch salmon in high concentrations in favoured spots, and seiners are known to pass on information on preferred tie-ups for generations. One approach might be to identify habitat that is used preferentially by SRKWs for a particular activity state. Give that compliance with a voluntary exclusion zone is currently high among commercial whalewatching operators, an exclusion zone grounded in research supporting its biological significance to the killer whales and their recovery could certainly inspire high boundary compliance among boaters. Ultimately, we advocate studies that identify how whales use their habitat, and if areas are found that whales use consistently for feeding, then these would be the highest priority areas for vessel-exclusion zones. One of us (EA) conducted a pilot study on this topic last summer, and we are partnering with Dr. Dawn Noren, Northwest Fisheries Science Centre, on analysis and publication. Existing no-boat zones have been created to provide temporary control sites to facilitate vessel-interaction studies (e.g., Bain *et al.* 2006) or to add value to land-based whalewatching sites such as Lime Kiln Lighthouse... And clearly, the west side of San Juan Island is a well-known core area for SRKWs (Hauser 2006, etc). But it may well be that these areas are not used by whales preferentially for feeding. If not, they may not be conferring as much benefit to whales as would similar sized exclusion zones placed elsewhere. In fact, exclusion zones placed in peripheral, or suboptimal, habitat may be imposing undue hardship on commercial whalewatchers without being as beneficial to whales as they should be.

We applaud the authors of the SRKW proposed recovery plan for an exhaustive review of the literature, and for proposing a number of sensible studies to further elucidate the cause(s) of the decline. We would like to see greater attention paid to the linkages among

these likely factors, either at the research, management or mitigation stages. We would also like to see priority given to research projects that provide the greatest or most urgently needed information to assist the recovery process. We encourage modelling and simulation exercises and power analyses, using existing data, to form hypotheses that can be tested with new data. Ultimately, we strongly encourage NMFS to fund or conduct a sensitivity analysis to assess how much of the interannual variability in SRKW population dynamics can be explained by plausible ranges of values in prey, habitat, disturbance, toxins and other factors. All other things being equal, priority should be given to studying factors that have the potential to elucidate cause(s) of declines, and/or improve the conservation status of southern resident killer whales.

Literature cited

Bain, D.E., Williams, R., Smith, J.C. & Lusseau, D. 2006. Effects of vessels on behavior of southern resident killer whales (*Orcinus* spp.) 2003-2005. NMFS Contract Report N. **AB133F05SE3965**.

Lusseau, D. & Higham, J.E.S. 2004. Managing the impacts of dolphin-based tourism through the definition of critical habitats: the case of bottlenose dolphins (*Tursiops* spp.) in Doubtful Sound, New Zealand. *Tourism Management* **25**: 657-667.

National Marine Fisheries Service. 2006. Proposed Recovery Plan for Southern Resident Killer Whales (*Orcinus orca*). National Marine Fisheries Service, Northwest Region, Seattle, Washington. 219 pp.

Pitman, R.L., Perryman, W.L., LeRoi, D., & Eilers, E. 2007. A dwarf form of killer whale in Antarctica. *Journal of Mammalogy*. 88(1):43–48

Williams, R., Lusseau, D. & Hammond, P.S. 2006. Estimating relative energetic costs of human disturbance to killer whales (*Orcinus orca*). *Biological Conservation* **133**(3): 301-311.

Williams, R. & Ashe, E. 2007. Killer whale evasive tactics vary with boat number. *Journal of Zoology, London*. 0:00-00

Williams, R. & Lusseau, D. 2006. A killer whale social network is vulnerable to targeted removals. *Biology Letters* **2**: 497-500. doi:10.1098/rsbl.2006.0510.

MARINE MAMMAL COMMISSION
4340 EAST-WEST HIGHWAY, ROOM 905
BETHESDA, MD 20814-4447

2 March 2007

Mr. Garth Griffin, Chief
Protected Resources Division
National Marine Fisheries Service
1201 NE Lloyd Boulevard., Suite 1100
Portland, OR 97232

Dear Mr. Griffin:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the National Marine Fisheries Service's proposed recovery plan for the southern resident stock of killer whales (*Orcinus orca*). The Service has done a commendable job of assessing the status of the stock, evaluating factors that are likely to impede recovery, proposing recovery measures to address those factors, and identifying research activities necessary to inform and support recovery measures. The recommendations and comments that follow are intended to support the proposed recovery plan.

RECOMMENDATIONS

Based on its review of the proposed recovery plan for the southern resident stock of killer whales, the Marine Mammal Commission recommends that the National Marine Fisheries Service—

- revise the delisting and downlisting criteria to be more explicit and measurable;
- revise biological criterion 2 to be more precautionary with respect to numbers of reproductive males and females that would be required before consideration of downlisting or delisting;
- assign high priority to monitoring of population status in view of its importance for detecting changes in status, evaluating threats, and assessing the effectiveness of recovery actions;
- also assign high priority to monitoring and evaluation of the effectiveness of recovery actions; and
- clarify the relationships among specific delisting or downlisting criteria, recovery measures, and research and monitoring activities to ensure internal consistency in the recovery program.

RATIONALE

Delisting and downlisting criteria

The logic behind the proposed delisting and downlisting criteria is generally well developed. However, in a number of cases, the criteria would be improved by making them as explicit, measurable, and reliable as possible.

PHONE: (301) 504-0087
FAX: (301) 504-0099

Certain criteria could be improved by specifying the period of time involved in their measurement. For example, the fourth bullet under biological delisting criterion 2 requiring "no significant increase in mortality rate for any sex or age class" and threats delisting criteria A.1, A.3, and D.3 should be clarified to indicate the relevant time frame for the observations, including collection of baseline information. For example, it would be useful to indicate if mortality would have to be monitored for 1 year, 5 years, 10 years, or some other time period before a finding of no significant impact could be reached. In this case, it might also be useful to indicate what constitutes a "significant" increase in mortality. In the same manner, it would be helpful to indicate the period of consideration for whale-watching impacts (e.g., a year, a decade) and how those impacts would be measured (e.g., number of vessels, noise levels, changes in behavior or distribution).

Similarly, delisting criterion B.2 should be clarified to indicate the amount of time that would have to elapse since the last removal or human-caused death before the southern resident stock could be considered for delisting. For example, would a year without a death be sufficient, or 10 years, and so on? In this regard, it is worth noting that ship strikes were implicated in the deaths of two southern resident killer whales in 2006. Presumably those deaths would fall under "other activities" and thus be considered under criterion B.2.

Other proposed criteria are not sufficiently measurable to be useful for indicating when delisting or downlisting should occur. For example, threats delisting criteria A.2, C.1, and E.5 all refer to "knowledge" as a requirement for recovery, but it is not clear how knowledge would be assessed or measured to determine that it was sufficient to consider the population for delisting or downlisting. An example of specific knowledge related to foraging might be determination of foraging patterns when the whales are outside of Puget Sound. Examples of possible measures for assessing disease might be gained from stranded animals or from photo-based assessment of animal condition. Similarly, criteria A.3 and D.3 both indicate a need for reduction in impacts, but it is not clear how much reduction is necessary. For example, would any reduction suffice or would a reduction need to be of sufficient magnitude to allow recovery?

Both threats-based downlisting criteria 1 and 2 are vague and leave too much room for interpretation. Here, too, it is not clear how "understanding" or "progress" will be measured or what level of "improvement" or "progress" will be necessary to merit downlisting. Without clarification of these criteria, it seems quite likely that downlisting decisions will be made solely on the biological criteria without consideration of potential threats to the population.

A number of delisting criteria require that management and research actions are effective, but it is not clear how effectiveness will be measured. Examples include criterion A.2, which seems to focus on the need for effective ecosystem-based fisheries management, A.4, B.1, E.1, E.2, and E.4. These criteria all could be revised or clarified to provide explicit measures of effectiveness. For oil spills, for example, effectiveness might be judged based on written plans, coordination meetings among respondents, stockpiling of response supplies and equipment, conducting drill exercises, identification of key habitat areas and development of measures to protect them, and so on. Efforts to assess the effectiveness of management actions also should take into account likely future conditions to ensure that they are up to the task.

Finally, delisting criterion E.1 was not clear to us. The plan should be modified to clarify what is meant by "oil spill response plan wildlife brand section of NWACP."

Although we believe that the delisting and downlisting criteria are comprehensive with regard to topics covered, we also believe they could be made more explicit and measurable. For that reason, the Marine Mammal Commission recommends that the delisting and downlisting criteria be revised accordingly.

Demographic considerations

Delisting and downlisting criteria also need to be reliable indicators of recovery. We question whether demographic criterion 2 reflects sufficient recovery for downlisting or delisting. Our concern is focused particularly on the number of males per pod. Mate selection by southern resident killer whales appears to follow the pattern exhibited by northern resident whales: mating only occurs between and not within matrilineal pods (e.g., a male from J pod would not mate with females from J pod but would mate with females from K or L pods). This behavior is thought to reduce the potential deleterious effects of inbreeding. However such effects could still accrue if very few reproductive males or females were present in one or more pods. For example, in recent years J and K pods each have had only one reproductive male; as a result, all the reproductive females from L pod were able to mate only with one of those two males. Clearly, those two males from J and K pods could contribute substantially to the genetic composition of the next generation of L pod animals, increasing the risks of inbreeding if one or both males carry detrimental alleles. In this regard, it is interesting to note that L pod has declined in recent years, while J and K pods (which had access to seven reproductive males from L pod) have increased. Although a variety of factors could have led to those disparate trends, it is clear that the demographic and social structure of the population is critical for sustained recovery. The Service recognizes the importance of demographic and social structure and explicitly addresses relevant concerns in biological delisting criterion 2 ("Available information on social structure, calf recruitment, survival, population age structure, and gender ratios of the Southern Resident DPS ... are indicative of an increasing or stable population"). This criterion focuses primarily on the demographic structure of the population and specifically requires "representation from at least three pods; at least two reproductive age males in each pod or information that fewer males are sufficient; and a ratio of juveniles, adults, post-reproductive, male and female individuals similar to the Northern Resident population model."

Although it is clear that demographic structure is an important determinant of recovery potential, it is not clear that the standards set by biological criterion 2 for both delisting and downlisting are sufficient to promote and sustain recovery. In particular, it is not clear that the presence of two reproductive males in each pod is sufficient to support the reproductive rate necessary for recovery and avoid the deleterious impacts of inbreeding. Given the long calving interval and low number of reproductive females in the population, it is conceivable that very few mature males could impregnate a sufficient number of females to maintain the current reproductive rate. It is not clear, however, that opportunities for mating (i.e., contact between pods with available reproductive males and females) always result in successful mating (e.g., females may refuse mating attempts and some males may have low sperm quality or other such limitations). To address this

uncertainty, as well as inbreeding risks, the quantitative measures under criterion 2 should be revised to require sufficient numbers of reproductive males and females in each pod to support the reproductive rate necessary for recovery and avoid the deleterious effects of inbreeding. Further research will be necessary to determine "sufficient numbers," such as genetic research to determine the pedigree of extant killer whales and estimate the frequency with which individual males successfully mate with multiple females from other pods. Until such research has been conducted, the Marine Mammal Commission recommends that the recovery plan be revised to be more precautionary with respect to numbers of reproductive males and females that would be required to merit downlisting or delisting. To the extent possible, such default values should be derived from population viability analyses based on known demography, genetics, and population trends.

Priorities for Research and Monitoring

With regard to the setting of research priorities, we believe two areas warrant greater emphasis than indicated in the draft plan. The first pertains to monitoring of population status, which is given priority 2 or 3. Such monitoring is essential to detect changes in status in a timely fashion, evaluate the effects of risk factors, and guide recovery actions. One could reasonably argue that monitoring itself does not lead directly to recovery and therefore should not be given greater priority than actual recovery actions. At the same time, however, the recovery process will occur over a period of time and will almost certainly be dependent upon information about the status and trends of the population to guide recovery efforts. Whether the plan assigns a priority of 1, 2, or 3 to monitoring, we cannot realistically expect an effectively managed recovery program without such monitoring. For that reason, the Marine Mammal Commission recommends that during the implementation of the recovery plan, the National Marine Fisheries Service give high priority to the level of monitoring deemed necessary to guide recovery efforts.

The same arguments apply to evaluating the effectiveness of recovery actions, and the Marine Mammal Commission also recommends that the National Marine Fisheries Service give high priority to these activities. We do not advocate excessive focus on research alone, and the Service will have to weigh recovery and research activities carefully, but we believe evaluation of the effectiveness of recovery actions is important. In particular, the Service should monitor the effectiveness of (1) fisheries management actions to promote the recovery of salmon populations and thus ensure that adequate prey is available for the southern resident stock, (2) management actions to eliminate incidental or direct mortality of southern resident whales, (3) measures to reduce the level of disturbance to the population by whale-watching vessels, and (4) measures to reduce the levels of contaminants in Puget Sound and, through bioaccumulation, in the whales.

Linking delisting and downlisting criteria, recovery measures, and research

Although all recovery plan measures and research activities appear to be relevant, how and to what extent they will promote or help document recovery is not always evident. For example, it is not obvious how the management of atypical southern residents (recovery measure 4.1) will contribute to the recovery of the population. Also, the priority levels assigned to recovery and research activities do not always appear to be internally consistent. For example, research activities

focused on southern resident diet (B.2), prey availability (B.6.1), and oceanography (B.8) were assigned priority 1. However, the relevant recovery action (1.1) to "rebuild depleted populations of salmon and other prey to ensure an adequate food base for recovery of the Southern Residents" was assigned lower priority, which seems inconsistent. As another example, preventing and responding to oil spills (2.1.1 and 2.1.2) were assigned priority 1, but the relevant research activity (B.6.4, "Determine risks from other human-related activities") was assigned priority 2. These apparent mismatches in priority assignments may be justified, but a review of the relationships among delisting or downlisting criteria might reveal some inconsistencies that warrant reconsideration or highlight recovery measures or research activities that might otherwise be overlooked. For example, delisting criterion B.2 requires that there be no incidental or deliberate deaths associated with fisheries or other activities, but no recovery measures or research activities are included in the recovery plan to ensure that this criterion is met— although the Service clearly has programs in place to monitor and manage incidental mortality associated with commercial fisheries.

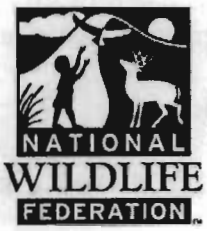
To ensure internal consistency in the recovery program, the Marine Mammal Commission recommends that the National Marine Fisheries Service review and clarify the relationships among specific delisting or downlisting criteria, recovery measures, and research and monitoring activities. Such clarification should help the Service make and justify decisions regarding research and recovery priorities.

Again, we believe that the Service has done a commendable job preparing this draft recovery plan, and we hope you will find our recommendations and comments helpful as you finalize the plan. Please contact me if you have any questions.

Sincerely,

Timothy J. Ragen

Timothy J. Ragen, Ph.D.
Executive Director



February 27, 2007

Lynne Barre
Donna Darm, Chief
Protected Resources Division
1201 NE Lloyd Blvd., Suite 1100
Portland, OR 97232
Via email: orca.plan@noaa.gov

RE: Draft Proposed Recovery Plan for Southern Resident Killer Whales (Orcinus orca)

Dear Ms. Darm and Ms. Barre,

Thank you for the opportunity to comment on the *Draft Proposed Recovery Plan for Southern Resident Killer Whales (Orcinus orca)*, dated November 2006.

People For Puget Sound is a nonprofit, citizens' organization whose mission is to protect and restore Puget Sound and the Northwest Straits, including a specific goal to protect and restore the 2,000 miles of Puget Sound shoreline by 2015.

Defenders of Wildlife is a nonprofit environmental organization with approximately 500,000 members and supporters. Defenders is dedicated to the protection of all native wild animals and plants in their natural communities. Defenders advocates new approaches to wildlife conservation that will help keep species from becoming endangered. Our programs encourage protection of entire ecosystems and interconnected habitats while protecting species that serve as indicator species for ecosystem health.

The National Wildlife Federation's mission is to inspire Americans to protect wildlife for our children's future. With approximately 4 million members and supporters nationwide, National Wildlife Federation educates and empowers Americans to protect and restore wildlife, connect people with nature, and address the threat of global warming.

PEER is a national non-profit alliance of local, state and federal scientists, law enforcement officers, land managers and other professionals dedicated to upholding environmental laws and values.

The Center for Biological Diversity is a non-profit organization dedicated to the protection of imperiled species and wild spaces through science, advocacy and the law.

Save Our Wild Salmon is a nationwide coalition of conservation organizations, commercial and sportsfishing associations, businesses, river groups, and taxpayer and clean energy advocates working collectively to restore self-sustaining, healthy, and abundant wild salmon to rivers, streams and oceans of the Pacific Salmon states.

Southern Resident Killer Whales are a signature species of Puget Sound and their health and population status are indicators of the health of the Sound overall. We believe that significant, aggressive and timely actions must be taken just to protect, let alone to recover, their diminished population.

The draft Recovery Plan, especially the Background Section, is well written, clearly organized, and is inclusive of scientific research to date. The threats to orcas are well defined. We are troubled, however, that the Recovery Strategy, Goals, Objectives, Criteria, Program and Implementation Schedule and Costs are not strong enough to recover the Southern Resident orca population.

We appreciate that NOAA Fisheries has produced orca ESA documents on schedule and is pursuing a high quality orca research program. What we don't see in the document is the partnership effort that is needed with other federal agencies, tribal governments, state agencies, the Canadian government, businesses, nonprofit organizations and others to address orca recovery. It is not clear that significant outreach to these partners has occurred yet. Piggybacking on existing programs such as Shared Strategy and Puget Sound Partnership is an appropriate strategy but this Recovery Plan must go further than these efforts, which are built on compromise and have some serious gaps related to the protection and improvement of critical ecosystem components fundamental to orca recovery.

The ESA requires that the NOAA Fisheries "develop and implement" a recovery plan "for the conservation and survival of" any threatened or endangered species. 16 U.S.C. § 1533(f)(1). Generally, a recovery plan "identifies and assigns priorities to actions required for the recovery of a species." National Marine Fisheries Service Recovery Planning Guidelines (September 1992). Thus, a recovery plan acts as a "basic road map to recovery, i.e., the process that stops or reverses the decline of a species and neutralizes threats to its existence." Fund for Animals v. Babbitt, 903 F. Supp. 96, 103 (D.D.C. 1995). The ESA states that, "to the maximum extent practicable," the recovery plan must contain both "site-specific management actions necessary for the conservation and survival of the species," and "objective, measurable criteria" by which the recovery of the species may be judged. 16 U.S.C. § 1533(f)(1)(B).

The development of the "site-specific management actions" within a recovery plan requires the NOAA Fisheries to "consider the distinct needs of separate ecosystems or recovery zones occupied by a threatened or endangered species." Fund for Animals, 903 F. Supp. at 106. Indeed, for a recovery plan to meet the statutory standard, it must be "as explicit as possible in describing steps to be taken in the recovery of a species." Id. (citing S. Rep. No. 240, 100th Cong., 2d Sess. 9 (1988)). In the absence of detail and specific management actions, the NOAA Fisheries will not be able to properly "implement" the plan, and such "inaction eviscerates the recovery planning provisions . . . and amounts to an abdication of the [NOAA Fisheries] responsibility to plan for the survival and recovery . . . of endangered and threatened species." Id. (quoting Sierra Club v. Lujan, 1993 U.S. Dist. LEXIS 3361, *66 (W.D. Tex. 1993)).

ESA Section 4(f)(1)(B) Statutory Requirements 1 and 3:

Our major comment is that the Management Actions and Implementation Schedule do not meet the ESA Section 4(f)(1)(B) statuary requirements described on page 118 of the draft Recovery Plan:

> "1. A description of the site specific management actions necessary to achieve the plan's goal for the conservation and survival of the species"
>
> nor
>
> "3. Estimates of the time required and cost to carry out those measures needed to achieve the plan's goal and to achieve intermediate steps toward that goal."

Below we provide specific comments on the ways that these requirements are not met:

1. Regulatory Actions. Table 6 (page 74), *Factors considered in listing and potentially affecting recovery of Southern Resident killer whales,* clearly identifies threats to orca and the barriers to overcoming these threats. For several of the threats, including Contaminants, Vessel effects, and Sound, an identified barrier is "Inadequacy of Existing Regulations." Therefore, the Recovery Plan must clearly recommend the specific regulatory actions needed to ensure the recovery of the species.

2. Lack of benchmarks. The approach in the draft Recovery Plan is forgiving rather than directive in terms of timely implementation of actions. Although an adaptive management strategy is warranted, such an approach should also incorporate specific benchmarks that much be achieved by certain dates. At those dates, 5 year or 10-year intervals, an assessment can be made and a change of course implemented. Otherwise, we have a sliding timeline in which we continue to merely "minimize" our impact. History has shown this approach usually "minimizes" the benefits for and protections of listed species.

3. Recovery Program Outline (pages 127-132). This outline of recovery measures relies heavily on the use of such terms as "minimize" and "support." This soft approach over the past several decades has led to our diminished orca population. It is the responsibility of NOAA Fisheries, we believe, to outline specific actions and benchmarks that get us beyond "minimization." The terms that should be used are "Significantly reduce" or "eliminate the threat of" or other more directive language. Better yet would be for NOAA Fisheries to identify quantitative benchmarks for toxic clean up, toxic loadings, noise in the marine environment, habitat loss for food species, etc. Interestingly, the language *is* more directive and detailed in the Research and Monitoring section of this chapter.

4. Recovery Action Narrative (pages 133-165). Almost all of the management actions (habitat management, regional restoration, prey contamination, etc.) are described in broad, general terms. By contrast, the Research and Monitoring actions are specific. There is no reason why management actions cannot be specific and directive. We strongly recommend that the management section be re-formatted and significantly strengthened with specific bulleted actions that relate to specific management measures and trace directly back to benchmarks identified under each measure.

Our suggested approach is (this same approach should be taken for each action, these are just examples):

a. Habitat Management (1.1.1.1).
   - Improve salmon habitat on a regional basis with targeted recovery of xx salmon populations to xx level in xx years, with a focus on prey density year-round.
   - Removal of large bottlenecks for large salmon populations, such as culverts blocking fish passage, tidegates diminishing estuaries, and dams in xx watersheds by xx date, prioritized by amount of prey gain and other related factors.
   - Increase nearshore salmon habitat by xx amount in 10, xx in 20 years. Increase nearshore productivity at the same rate as the streams, so that one or the other does not become a bottleneck.
   - Implement updated landuse plans, such as shoreline management plans and critical area ordinances that will directly address improvement and protection of salmon and other aquatic habitat including sufficient shoreline buffers, riparian vegetation protection and restoration, and clean water incentives.
   - Ensure that Washington Department of Ecology manage streamflow, through allocations and other methods, to provide adequate flows for salmon and other aquatic species.
   - Ensure water flow is adequate in the Columbia System (Oregon, Idaho, Montana, British Columbia, California, Nevada and Utah) and in other river systems in California and Oregon, particularly the Klamath.
   - Significantly improve water quality management actions in Shared Salmon strategy (and WRIA plans) so that, at a minimum, water quality standards are met.
   - Implement stormwater NPDES permits and other stormwater management tools to ensure that water quality standards to protect aquatic species are met
   - Implement TMDLs and other actions to remove contaminated waterbodies from the state's 303(d) list
   - Create a mechanism (feedback loop) that ensures that habitat management takes into account anticipated climate shifts. Actions adequate in present climate may not be adequate in a warmer climate.
   - Etc.

b. Improve restoration for other species (1.1.2)
   - Monitor progress of recovery of species that are covered under existing management plans. Identify gaps in these plans.
   - Develop management plans for other species not currently covered
   - Increase the number and acreage of marine protected areas to a level that ensure adequate protection of important critical spawning, feeding and rearing areas for important other aquatic species
   - Identify gaps and increase enforcement of protection of other species
   - Etc.

c. Cleanup contaminated sites and sediments (1.2.1)
   - Identify and create a GIS map of all sediment and upland sites with contaminants of concern to orca recovery in Puget Sound and the Strait of Juan de Fuca by December 31, 2007 (with contamination levels above recognized government standards)
   - Create a cleanup timeline for these sites, prioritized by the largest threats, so that all sites are cleaned up by 2020.

- Clean up all Superfund sites, which should already be a high priority based on their high levels of contamination, on a similar timeline.
- Monitor all cleanup sites for re-contamination problems as well as success of cleanup methods and create a database that tracks this information in a systematic (and easy to use) fashion
- Etc.

Again, these are examples. We would be happy to meet with NOAA Fisheries to help work through a similar process for all management actions.

5. Add new action: Source control. [This action is different from action 1.2.2 that addresses continuing pollution in a broad way] A huge priority should be placed on source control because source control is one of the main limiting factors for site cleanups. USEPA and the Washington Department of Ecology should identify human and financial resources necessary to do this task effectively and devote those resources to source control for Puget Sound cleanup sites. Cleanup cannot proceed until source control is adequately addressed.

6. Add new action: Stormwater control and treatment. Stormwater is such an important issue that it should be addressed by its own directive action. Contamination from stormwater has been described as the most significant toxic threat to Puget Sound. Stormwater control and treatment is also critical for salmon recovery. Recently issued municipal stormwater permits do not adequately address water quality standards and land use planning. Significant funding is needed on local, state and federal levels to remove the threat of stormwater to the health of Puget Sound and to Southern Resident orcas.

7. Strengthen water quality actions. Excessive nutrients, persistent bioaccumalative toxic (PBTs) chemicals, and other contaminants continue to be discharged into the Puget Sound drainage under federal wastewater permits. This contaminant load should be capped at today's levels and then gradually reduced with an aggressive new level of green chemistry and technological investments. Mixing zones for PBTs should be phased out by 2015. Water quality and sediment standards should be upgraded within 3 years to ensure orcas are not exposed to harmful PBTs.

8. Add new action: Endocrine Disruptors. Reduction of endocrine disruptors should be addressed by their own recommended regulatory action. Much recent human, rodent and other mammal research has pointed to fecundity decreases due to endocrine disrupters in products and in the environment. These chemicals, including phthalates, PAHs, some pharmaceuticals, and some pesticides, should be addressed at a state or federal level with Chemicals Policy Reform – that is, manufacturers should be required to identify which chemicals are in products and industrial processes in Washington State, prove that these chemicals cause no reproductive, toxic or carcinogenic harm to mammals and find safer alternatives. As is pointed out on page 98 of the draft Recovery Plan, "environmental levels of many emerging contaminants, which are typically poorly regulated, are probably increasing." This threat is significant and must be directly addressed more aggressively than the proposed action that calls for an environmental monitoring program.

9. Add new Action: Effective enforcement of existing regulations. The array of existing environmental protection laws, if enforced, could significantly improve the health of the Puget Sound ecosystem and help reduce threats to orcas. This need for enforcement extends to removal of barriers to fish passage with a priority on blockages that cause greatest diminution of salmon runs. Noise is a good example where enforcement of existing regulations would be beneficial. Funding for enforcement is also needed.

10. Harvest and hatcheries. The Recovery Plan should aggressively address the difficult issues of harvest and hatchery management. In terms of salmon restoration, the focus should be on minimizing harm to wild salmon from hatcheries and supporting wild salmon recovery. For example, wild and hatchery salmon provide different contributions and opportunities as a food source for orcas and the recovery plan should plan actions carefully with these differences and distinctions in mind.

11. MOU with Navy. A Memorandum of Understanding (MOU) should be developed with the Navy so that their specific adverse actions can be addressed directly rather than sprinkled through actions and excluded in the critical habitat designation.

12. Climate Change. Briefly mentioned in Research Action B8, climate change should have a stronger emphasis in this Recovery Plan. Climate change could be one of the most significant factors in the survival and recovery of orcas given the potential for much more frequent sewer or combined sewer overflows, other toxics releases, spread of diseases, loss of nearshore habitat, change in food web characteristics and more.

13. Cumulative Impacts. It's important that management actions be evaluated in terms of cumulative effects rather than on a case-by-case basis. Cumulative impact assessment should be explicitly built into most of the management actions. For example, if the plan calls for increasing nearshore salmon habitat, projects that reduce nearshore habitat should not be approved, even if the reduction in habitat seems insignificant.

14. Dam Removal in Lower Snake River. While much of the draft recovery plan's discussion of prey species necessary for a recovered orca population focuses on those stocks most commonly found in the Puget Sound/Georgia Basin area, the plan correctly concludes that "[p]erhaps the single greatest change in food availability for resident killer whales since the late 1800s has been the decline of salmon in the Columbia River basin." p. 82. Southern Residents, particularly K and L pods, typically vacate the inland waters of for the late fall and winter months and migrate either north along the west coast of Vancouver Island or South along the Washington and Oregon coasts, sometimes as far south as California. As NOAA Fisheries acknowledges in the recovery plan, salmon from the Columbia River Basin, which once numbered from 10-30 million returning salmon per year, were a vital food source for the Southern Resident population during these crucial months. Many Columbia Basin salmon, especially fall chinook, have migration routes that bring them close to the coast where Southern Residents are most frequently spotted. As the recovery plan notes, L pod has been observed feeding on the Columbia River spring chinook run in the spring of 2004. Not only are salmon from the Columbia River an important historic food source, recovered abundant salmon in this river are an indispensable requirement for the recovery of Southern Residents. We believe that NOAA Fisheries' acknowledgment of the importance of this food source in the draft plan is critical and we urge the agency to include in the final recovery plan specific recovery criteria for the number and seasonal distribution of salmon, particularly chinook, that Southern Residents need to return to the Columbia River to support a recovered population. To support and implement these criteria, the agency should include removal of the four Lower Snake River dams as a site-specific recovery action in the recovery plan. This action is the single most effective way to generate the abundant Columbia Basin salmon that Southern Residents need to recover.

15. Klamath River Dams. The Klamath River was once the third largest salmon river in the US portion of the Southern Resident range, and would also benefit from dam removal. Its location between the Columbia and the Sacramento will be important to establishing independent sub-populations.

16. Pacific Salmon Treaty. Given its huge impact and NOAA Fisheries' role in consulting on the next round, this treaty is a huge issue that should be addressed in the Recovery Plan. As this treaty is renegotiated orca recovery actions should be included.

17. Additional Critical Habitat. The Recovery Plan should prioritize designation of additional Critical Habitat as soon as possible. Recovery targets are inadequate, and as a result Hood Canal is in fact essential to the recovery of the species. Additional data from the Pacific Coast will undoubtedly justify designation of additional Critical Habitat there. Due to the ratchet nature of Critical Habitat, designation sooner rather than later is important.

18. Shallow Water Use. Research oriented toward documenting use of shallow water is also needed, as it may be important in expanding critical habitat.

19. More specific International actions. Specific language and targets should be included to address international issues related to orca recovery. These actions could enhance the ongoing cooperation with the Canadian Killer Whale Recovery Team and indeed we should support the Canadian effort with funds and research (to protect Southern Residents on their side of the border). Some examples of issues that should be addressed by specific actions are:

- The Fraser is probably the primary source of food for Southern Residents at this time
- Canada has its own habitat that is critical.
- International sources of toxins will become relatively more important as we reduce US sources.
- Salmon fisheries in international waters need to be managed.

20. Educational map. Oregon and California as well as Washington are orca habitat, and inland states like Idaho contain watersheds that drain into Southern Residents' habitat. In addition to the toxic sediment map, it would be productive to produce watershed maps showing where contaminant sources drain into the Southern Resident range and an airshed map showing where aerial discharges find there way into orcas through prey. Also, having a range map for prey species would help people envision where human activities affect Southern Residents.

21. Synthesis of existing knowledge to expedite actions. Existing knowledge should be synthesized from a regulatory perspective. This should be a priority to allow initial management actions to be taken, followed by adaptive management changes as additional data on threats become available and the effectiveness of on-going management protocols is assessed. That is, a quantitative population dynamics model should be developed that incorporates food availability, disturbance, toxins, disease outbreaks, oil spills, and other factors. The effect of proposed actions on population growth rates could then be estimated. In turn, stakeholders could be convened to set timelines for habitat improvement actions in various sectors (fisheries, vessels, noise, oil, the Navy, stormwater, toxins, etc.) that would result in steady population growth.

22. Follow-up forums on management actions. The set of science workshops that NOAA Fisheries have held related to orca recovery have been excellent. We suggest the NOAA Fisheries convene a series of similar workshops to refine the management actions for the Recovery Plan so that the actions can reach the level of specificity and detail of the Monitoring and Research Actions in the draft.

23. Implementation schedule and costs. The implementation table of the draft Recovery Plan does not include costs for many actions and does not address additional costs for underfunded programs. Further, the budget should be developed to reflect actions not motivated by killer whale recovery (e.g., superfund

cleanups, recovery of endangered salmon), but that would contribute to killer whale recovery and could be expedited for this reason. Specific gaps noted include:

- The draft Plan assumes that existing salmon recovery plans are adequate even though there are significant gaps and substantial uncertainties in this effort.
- The draft Plan does not address the need for additional funding for contamination cleanup and source control. Existing cleanup efforts are significantly and chronically underfunded.
- Stormwater management will require significant increases in funding to perform at even marginally adequate levels.
- Non-endangered salmon stocks need to be maintained and enhanced where possible, in addition to restoration of listed stocks.
- The budget needs to include an allowance for programs that don't have specific costs (e.g., disease management).

The budget should be front-loaded starting in FY'08 to allow initial actions to be implemented (e.g., essential research, management actions justified based on existing information, the first ten years of salmon recovery, etc.). Finally, it is a huge miscalculation to presume that the research program is expected to cost almost 6 times more than management actions. Although research is critical, on-the-ground actions, if fully described, should cost many multiples of the research costs from the start.

ESA Section 4(f)(1)(B) Statutory Requirement 2:

In addition, we have the following comments regarding the objective measurable criteria that would lead to a removal of orcas from the list:

1. ***Biological Criteria*** (pages 119-126). There is no compelling evidence presented that a 2.3% per year population growth rate indicates a healthy population of Southern Resident Killer Whales. In fact, after a period of growth at this rate, the Southern Resident population declined precipitously. The 3% per year growth rate of Northern Residents, which are less likely to suffer from reproductive impairment and immuno-suppression due to toxins, is a better target. A larger population is less likely to be affected by random fluctuations so is better able to maintain consistent growth. Nevertheless, some variation in rate is to be expected due to changes in age structure and sex ratio.

As a trigger for downlisting or even delisting, other factors should be more important, and a sustained growth rate close to 3% should be required. Absolute population size (500-1000 individuals), the existence of subpopulations (with three different core areas), the number of breeding individuals (250-1000), population trends (increase near 3%/year), range utilization (use of core areas for weeks to months with travel throughout the range the remainder of the year), and the result of population viability analysis (with population parameters adjusted to produce a stationary rather than increasing population with a maximum possible size set at the then current size, and allowance for catastrophes such as disease outbreaks or oil spills) all should be favorable before change in status takes place.

2. ***Threats Criteria, Factor A-2, Fisheries Management*** (page 123). This factor should include support of *wild* salmon stocks as a key to the long-term sustainability of the health of the Puget Sound ecosystem and of orcas. Fisheries management needs to consider the status of the Sacramento, Klamath, Columbia, and Fraser rivers, along with smaller coastal rivers. In addition, the importance of non-salmonid species needs to be understood and those species need to be healthy enough that their abundance and trends don't pose a threat to continued SRKW survival. A lot more than Puget Sound salmon need to be considered.

Targets for Salmon Recovery. A 3% per year growth rate for orca recovery (see above) corresponds to about 34% over 10 years, and 81% over 20 years. The food supply will need to keep up with the whales, so 3% is a realistic target. We need to add 10%, since the brief recovery in the population has reversed. The year 2002- 4 average - is the baseline to grow from. Salmon returns vary with natural variations in climate, so an allowance should be made for adequate fish in bad years. Reasonable targets (from the orcas' perspective) might be 50% in 10 years and 100% over 20 years. Toxic load may preclude maximum growth even if fish are abundant, but reduced population growth would be expected until females who already have high toxin levels die or reach post-reproductive age.

3. Threats Criteria, Factor A-3, Contaminant Levels (page 123). Although a focus on legacy pollutants is important, this factor should also include ongoing pollution such as flame retardants, PAHs, endocrine disrupters, metals, emerging chemicals, and more.

4. Threats Criteria, Factor D, Inadequacy of existing regulatory mechanisms (page 124). It is not clear why the objective for this factor is limited to the impact of contaminants on the species. The inadequacy of existing regulatory mechanisms is a contributing factor to a majority of the threats to the whales. Thus, the object here should be stated to include the elimination of all threats that currently exists as result of the lack of necessary regulatory protections, such as, but not limited to: contaminants, vessel effects, sound, oils spills, and invasive species. We recommend that this section be expanded to include all regulatory actions that must be implemented to protect the species from these threats.

5. Threats Criteria, Factor E, Other Natural or Manmade Factors (page 124). Similarly, this section is too limited in scope. Oil spills are not the only manmade factor impacting the species and threatening its recovery. We recommend that specific factors be added to address each item (i.e., oil spills, population status, coastal use, etc).

6. Threats Criteria, Factor E 2, Oil spill prevention (page 124). We object to the language of this factor – that oil spill prevention plans must be "no less protective than those in place at the time of listing." The plans should be *much more* protective than the old plans. They are outdated and inadequate.

Thank you for your consideration of our comments and we look forward to continuing to work with you to recover our signature orcas.

Sincerely,

Brendan Cummings
Ocean Program Director
Center for Biological Diversity
PO Box 549
Joshua Tree, CA 92252
760-366-2232 x304

Jim Curland
Marine Program Associate
Defenders of Wildlife
P.O. Box 959
Moss Landing, CA. 95039
831-726-9010

Sue Gunn
Director
Washington PEER
P.O. Box 2618
Olympia, WA 98507
360-528-2110

James Schroeder
Senior Environmental Policy Specialist
National Wildlife Federation
6 Nickerson Street, Suite 200
Seattle, WA 98109
206-285-8707 X108

Darcie Larson
Associate Director
Save Our Wild Salmon
200 First Ave W, Suite 201
Seattle, WA 98119
206-286-4455 ext. 102

Heather Trim
Urban Bays Coordinator
People For Puget Sound
911 Western Ave., Suite 580
Seattle, WA 98119
206-382-7007 X215

Ocean Advocates

3004 NW 93rd Street

Seattle, WA 98117

felleman@comcast.net

206.783.6676

Ms. Lynne M. Barre and Mr. J. Brent Norberg

National Marine Fishers Service, Northwest Regional Office

Protected Resources Division

7600 Sand Point Way NE

Seattle WA 98115

orca.plan@noaa.gov

26 February 2007

Re: Comments to Proposed Recovery Plan for Southern Resident Killer Whales

Dear Ms. Barre and Mr. Norberg:

Thank you for the opportunity to comment on the timely release of the Recovery Plan for the endangered population of Southern Resident Killer Whales. Please add these to our 12.16.05 comments on the Conservation Plan and our 8.11.06 comments on the proposed critical habitat designation.

As a co-petitioner for the listing of this population under the ESA, Ocean Advocates appreciates the effort put into compiling the background information but disagrees with the premise of the recovery strategy that, "There is considerable uncertainty regarding which threats may be responsible for the decline in the population or which is the most important to address for recovery." Such logic is used to propose expending 85% of the $15,040,000 of the funds on research rather than recovery efforts. While we acknowledge that it would be

interesting to be able to identify the relative contribution of the known stressors of prey quality and availability, pollution, noise and disturbance, we believe NMFS should be expending the majority of their recovery funds you can take on recovery efforts that will address these issues while funding the monitoring of the population's response to changes in these parameters.

The continued decline of this population dictates that NMFS place greater urgency on recovery efforts rather than being able to definitively describe why they went extinct. We appreciate NMFS's caution in assessing success of the recovery effort by setting an interim recovery threshold of 120 animals. However, we are looking specifically for NMFS to exhibit greater leadership in the areas directly under your jurisdiction - fisheries, whale watching and maintaining an ongoing dialogue with the Navy and your counterparts in Canada.

Salmon restoration. It is not sufficient to say that programs like Shared Strategies recovery plan for Puget Sound Chinook exists therefore there is nothing left for NMFS to do. First of all, the funding for their voluntary recovery plan is anything but certain and does not address coastal runs. Furthermore, their plan does not account for the biological needs of the Southern Resident Community. We believe that NMFS should propose a significant curtailment of fishing pressure on the Puget Sound and Columbia River Chinook populations for a 5- year period. It may be necessary to compensate some users during that period and it is important to be mindful of treaty obligations with Canada and federally recognized tribes. In fact NMFS should seek financial support from the Pacific Salmon Commission's restoration trust fund for southern stocks for a temporary buy back program. We believe that measures to reduce catch need to be taken to make more salmon available especially while the whales are in decline. After this five year experiment is concluded an evaluation of the population's response could be completed to determine if it needs to be extended.

We also believe NMFS should be helping financially and technically in the restoration of the Elwha River ecosystem. In particular, NMFS should be seeing to it that this largest salmon recovery effort on the west coast, located in the center of their home range, gives sufficient priority to the recovery of Chinook salmon to aid in the recovery of the southern resident community.

Restoration of other prey species. NMFS needs to give greater priority to the recovery of the State's once largest herring population at Cherry Point that has suffered a dramatic decline from 15,000 tons in 1973 to just above 800 tons in 2000. Despite this fact and the importance of herring to the recovery of Chinook salmon, NMFS consultation with the USACOE did not even require BP to conduct an EIS when doubling their refinery dock, no less support our petition to list the Cherry Point stock under the ESA despite their genetic uniqueness and dramatic decline. While the population has climbed to just above 2000 tons in 2005, it is still a fraction of its former self. Since, as a result of our lawsuit, the Corps is now required to conduct an EIS for the BP dock, we urge NMFS to take their consultation responsibilities seriously for the importance of the herring to the recovery of the Chinook and SRC collectively.

Whale Watching. We are encouraged that NMFS has proposed in your budget to initiate a review of potential whale watching regulations. NMFS needs to also take immediate actions while this two-year process is underway. First, as we have asked in the past, NMFS needs to ask the Whale Watch Association to provide data characterizing their whale watching effort for we do not believe you can responsibly manage this issue without this basic data. We would envision NMFS organizing a meeting prior to this whale watch season to develop a data sheet that Association members would feel comfortable filling out on a daily basis. We have met with some members of the association who appear to be amendable to such an idea.

The minimum information we would suggest needs to be collected for each excursion can be recorded on a simple data sheet with the following inputs: Boat description (size, propulsion, fuel) Date, time left the dock, time of first approach within 300 yds, time of departure, time returned to the dock (optional info would be number of passengers on board).

We believe if we can keep track of whale watching effort while enforcing the established guidelines and providing some buffer along the eastern shore of Haro Strait, where much of the whale's feeding occurs in US waters, we would be able to point to real progress while allowing for the industry to continue their efforts. During the review period NMFS should provide additional funding for enforcement efforts on both sides of the border and find ways in which to deputize State, local and private entities such as Soundwatch to carry out this work. If enhanced enforcement improves on water conduct, no further regulations may be necessary than what has been proposed by the Association. However, it will be important to be able to determine if the existing guidelines are written clearly enough to lend themselves to enforcement.

Review and enhance the NW Stranding Network. Given the scientific value of recovering an orca carcass please describe the capacities of the NW stranding network to respond to strandings throughout the NW, identifying areas where capacity can be improved in terms of personnel and equipment.

Identify sites in need of toxics cleanup. In addition to monitoring the progress of cleaning up known superfund sites, NMFS should review EPA records of sites that have been declared to be cleaned up to assure that the required monitoring of their status is fulfilled. In addition to the numerous sites managed by the DOD, one site deserves NMFS's attention in particular. NW Transformer Inc. in Linden, WA has not had the required follow up monitoring required by the EPA despite being one of the largest illicit disposal sites of PCB's in the PNW. This site has historically drained into the Nooksack River and needs to be determined to be clean, especially since much of its restoration was made in situ in a region infamous for major flooding.

Minimize industrial discharges. NMFS, having been involved in the development of the cruise ship MOU with the Port of Seattle, DOE and the NW Cruise ship Association, needs to go back and include monitoring criteria for diseases as well providing greater scrutiny over the WET tests which have been shown to regularly exceed standards for

effluent toxicity. Furthermore, the federally delegated NPDES program allows for considerable amounts of marine pollutants to be discharged into the marine environment. BP's NPDES permit will be subject to renewal in March which NMFS should comment on due to the fact that Cherry Point herring have the highest level of larval abnormalities of any stock in Washington State which could be anthropogenicly induced due to the high amounts of PAHs and other substances in the discharge as has been demonstrated by NMFS's Auke Bay Lab in Alaska.

One area of additional research NMFS could help fund is the expanded use of harbor seals blood sampling to fill in gaps in our understanding of some of the largest pollutions sources in the North Sound in particular at Padilla Bay associated with the March Point refineries, north end of Lummi Island associated with the Cherry Point industrial complex, and Eliza Island associated with Bellingham Bay.

Oil Spills. Rather than passing the buck to the Washington Citizens Oil Spill Advisory Council to advocate for improved spill prevention and response measures, NMFS should be commenting on proposed Coast Guard, EPA and DOE rule makings. In particular, the Coast Guard has continued to fail to implement the OPA 90 salvage and firefighting requirement. Furthermore the DOE is in the process of implementing new Contingency Plan and vessel transfer regulations as well as updating the GRPS of the NW Area Contingency Plan that would benefit from NMFS review so that they are appropriately strengthened to protect the SRC and their prey.

Monitor and minimize acoustic impacts. NMFS should write to the Minerals Management Service notifying them that Sec 357 of the Energy Act calling for comprehensive inventory of OCS oil and natural gas resources will require MMPA take permits and ESA consultation for activities conducted off the west coast due to the potential presence of the SRC among other species. Furthermore, in order to assess the impact of anthropogenic noise NMFS needs to commit to monitoring it. NMFS should initiate the installation of an array of hydrophones throughout Washington waters with the Navy that would both monitor ambient noise as well as track the presence of the whales. Such an effort would be far more cost effective than chartering cruises on NOAA vessels and would allow the Navy to verify the presence of whales before initiating an exercise of their sonar equipment. This would be far superior than relying solely on citizen sighting networks that have varying degrees of effort and weather limitations. NMFS should continue to seek cooperation from the Navy to provide NMFS with sighting information they acquire from their vessels in transit.

Inter-jurisdictional enforcement and cooperation. Long term challenges exist to cross border cooperation in research and enforcement. The need for a bilateral facilitated discussion to air concerns and opportunities should be explored.

Sincerely,

Fred Felleman, MSc.
NW Director
Ocean Advocates

Subject: Proposed Southern Resident Orca Recovery Plan #110706B
From: Pat Collier <pcollier000@centurytel.net>
Date: Mon, 26 Feb 2007 15:02:45 -0800
To: Orca.Plan@noaa.gov

Angela Somma, Chief
Protected Resources Division
1201 NE Lloyd Blvd., Suite 1100
Portland, OR 97232
February 26, 2007

Re: I.D. 110706B Proposed Recovery Plan for Southern Resident Killer Whales

Thank you for this opportunity to comment on National Marine Fisheries Service's Proposed Recovery Plan for Puget Sound resident orca (PRPPSRO).

Since 1966 I have lived on the shores of Puget Sound where I have been able to enjoy the passage of J, K and L pods. I am very concerned about the decline of their population, the degradation of their habitat and the habitat of their prey and the risks to their survival.

"It is not clear, and may be impossible to quantify or model, which of the threats or combination of threats the Southern Resident [orca] population is subject to is most important to address relative to recovery." (PRPPSRO, p. 115) Therefore it is imperative to use the precautionary principle: Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

Please use the precautionary approach and prohibit or reduce activities if there is reason to believe those activities will cause harm, even if the scientific evidence is not yet clear. Use prudent foresight, taking into account potential effects of climate change and human population increase. We need stronger measures to halt and reverse habitat degradation. If we do not act in a way that assures survival of Southern Resident Orca (SRO), what kind of world are we leaving our grandchildren and their grandchildren?

While research and monitoring are important for recovery of SRO, stronger action is needed now.

Act now to alleviate all of the threats to SRO: environmental degradation, habitat deterioration, reduced food availability, pollution, and human disturbance, until a healthy viable population is recovered. Obviously existing conditions and regulations are not working. "The significant problems we face cannot be solved at the same level of thinking we were at when we created them." (Albert Einstein)

Furthermore, many of the threats to SRO may persist and/or increase over time unless rigorous measures are enacted. The possible cumulative and synergic effects of the many threats are too great a risk to the survival of SRO.

Adoption of the precautionary principle would fundamentally shift the burden of proof to showing that a proposed activity would not harm orca (or their prey, salmon, or the prey of endangered salmon, forage fish) prior to the authorization of an activity, instead of restricting activities after it is demonstrated that harm will be done. Adoption of the precautionary principle would also mean caution in the absence of information. When data are sparse, management must be conservative. This means a lack of information will restrict activities. It will also serve as an incentive for research and data collection as industry and developers will benefit directly from such activities.

Please increase funding for conservation efforts. Insure that current areas of

suitable habitat are maintained and degraded areas are restored. Protect and restore the habitat of SRO and their prey.

Protect Puget Sound herring and forage fish habitat. Protecting Puget Sound herring is critical for the survival of the SRO. Herring are an important prey species for chinook salmon, which in turn is the preferred prey of SRO. It is also believed that orca may eat herring directly. Chinook are a threatened species, and further loss of herring may result in additional declines in chinook populations. Further development in important herring habitat, including commercial shellfish rafts, salmon farms, pier and dock development, gravel barge loading at Maury Island, and development at Cherry Point, must be halted. Surf smelt and sand lace are also important forage fish for chinook, and protecting nearshore habitats will be important to the recovery of both salmon and SRO.

Nearshore should be considered critical habitat for SRO to protect and improve prey availability. SRO need salmon. Salmon need forage fish and terrestrial invertebrates. Forage fish and terrestrial invertebrates need healthy nearshore and marine riparian habitat. Furthermore, because SRO use of inter-tidal areas is likely a learned behavior passed on from one generation to another, nearshore should be protected to avoid loss of memory of tradition and/or, for example, in Hood Canal, to increase potential to relearn. Moreover, when Chinook are limited or unavailable in deeper waters intertidal foraging may become more frequent and more important for the survival of SRO.

Designating Hood Canal, nearshore, coastal and offshore areas that are recognized as important for SRO is wise and prudent. Waiting for additional information may be too late for their survival.

Protect and restore estuarine, riparian, and shoreline habitats. The most important threat to salmon that run through the SRO habitat is habitat destruction. In order to insure that the SRO food source remains viable, aquatic, riparian, and shoreline habitats must be preserved and restored. Elwha dam removal should be prioritized, but additional restoration areas will need to be identified and restored to insure suitable numbers of salmon continue to support the SRO. Furthermore, protection of existing habitats from shoreline armoring should continue, and removing or modifying shoreline armoring to restore shoreline functions should occur in other areas where feasible.

Support NMFS's Technical Review Teams working on salmon recovery. Recovery efforts for salmon will be crucial, and recovery efforts along the coast should be prioritized. Likewise, efforts being made to preserve marine resources by state agencies should be supported. Recovery goals that include a fish quota for the killer whales should be encouraged.

Reduce pollution in Puget Sound. Reduce the potential for and improve the response to oil spills. Clean up contaminated sites. Review NPDES permits to insure water quality is suitable for SRO. Determine whether the collective pollution levels of all current permits are affecting SRO and chinook survival. Too often chemicals are banned or restricted after they are shown to be harmful rather than required to be proven harmless before they are produced or used.

Whale watching 'guidelines' should be stronger and strictly enforced. Restrict vessel activity while whales are present. More education to boaters, pilots, etc., more monitoring and more serious consequences for violations are needed. Boats and planes should be required to have large identification that can be read from long distances so violations can be reported by concerned citizens.

Impacts from acoustic effects should be avoided not just minimized.

Loss of biodiversity is a major threat to human security. Decisions made now will affect the well being and even the survival of our grandchildren and their grandchildren. "In our every deliberation, we must consider the impact of our decisions on the next seven generations." (From the Great Law of the Iroquois Confederacy)

Please assure that future generations will have the same opportunity to enjoy the passage of the Southern Resident orca as I've had for more than 40 years.

Thank you for your consideration of these comments.

Sincerely,

Pat Collier
POB 574
Vashon Island, WA 98070
206 463 3552
pcollier@scn.org

PS - A few editing/format/proofreading suggestions :
Table of Contents should include lists of figures and tables with title or content label and page number.
A glossary should be included so terms not usual to lay people can be understood. Also include a list of all the acronyms used.
As stated in the PRPPSRO "The name "orca" ... [is] less sinister [than] killer whale." So please use orca or SRO (for Southern Resident Orca).
Page 29, para 3, line 4 observations is misspelled.
References to "pers. comm." and unpublished data should identify the person and their background.
Put all of table 6, p. 74, on one page.
Page 100, Vessel Effects and Sound, include 'gravel barge loading' in sentence beginning "In addition underwater sound can be generated ...."

Subject: RE: SRKW-PROP-REC-Plan
From: "ELLIS, ELIZABETH" <ELIZABETH.ELLIS@dnr.wa.gov>
Date: Wed, 20 Dec 2006 07:07:35 -0800
To: <orca.plan@noaa.gov>

Lynne Barre,

National Marine Fisheries Service,

7600 Sand Point Way N.E.,

Seattle, 98115

Dear Ms. Barre,

Thank you very much for including Washington Department of Natural Resources in your mailing list on the Proposed Recovery Plan for Southern Resident Killer Whales (*Orcinus orca*).

The Washington Department of Natural Resources (DNR) manages over 2.4 million acres of state-owned aquatic lands in marine and freshwater. These lands include areas of orca habitat found within shorelands, tidelands, and bedlands in Puget Sound, along the Pacific Coast. As proprietary manager of state-owned aquatic lands, WDNR has been directed to manage the lands in such a way that certain public benefits are balanced. These public benefits include encouraging direct public use and access, fostering water-dependant uses, ensuring environmental protection, and utilizing renewable resources.

One method DNR employees to ensure environmental protection and ensure renewable resources are present for generations to utilize is invasive species eradication. DNR has been heavily involved in the management and removal of noxious and invasive species from public lands, such as the eradication of Spartina (*Spartina alterniflora*) from public estuaries.

To learn more about DNR's Spartina control efforts, please visit our website here:

http://www.dnr.wa.gov/htdocs/aqr/noxious_weeds/control.html

Given DNR's active role in this area, please accept the following comment:

Comment: The table on page 178 should include DNR for tasks 2.4, 2.4.1 and 2.4.2.

Thank you for your consideration,

Elizabeth Ellis

Environmental Review Coordinator

Policy Unit, Department of Natural Resources Aquatic Resources Program

Olympia, Washington 98504

(360) 902 1074

Subject: wonderful
From: "Paula Peters" <ppeters@corsp.org>
Date: Wed, 6 Dec 2006 08:58:53 -0500
To: <orca.plan@noaa.gov>

Thank you for helping protect our great whales.!!!!!! People all over our planet should be doing this not killing them.

Thank you,

Paula Peters-Ohio

San Juan County
Marine Resources Committee
PO Box 947
Friday Harbor, WA 98250
Email: info@sjcmrc.org
Web site: www.sjcmrc.org

February 14, 2007

Lynne Barre
NOAA Fisheries, Northwest Region
7600 Sand Point Way NE
Seattle, WA 98115

Dear Ms. Barre:

The San Juan County Marine Resources Committee (MRC) appreciates the opportunity to provide comments on the *Proposed Recovery Plan for Southern Resident Killer Whales*. Thank you for speaking and answering questions about the plan at the public meeting in Friday Harbor on February 6, and thanks for attending our MRC meeting on February 7 to discuss the plan further with us.

Southern Resident Killer Whales (SRKW) spend significant time in the waters of the San Juan Islands. More than any other species, orca whales occupy center stage in the aesthetic, recreational, and economic identity of San Juan County. A dedicated and knowledgeable corps of individuals and organizations based in San Juan County has been working to protect these whales for a long time, and we have tapped their experience, knowledge, and insights to create this review. We urge you to rely on their expertise as you execute this plan, as you already have in drafting it.

In general we found that this draft recovery plan clearly describes why the SRKW are on the list of endangered species, including the several factors that likely caused the current endangered status. The plan proposes a number of ways that each of these threats can be addressed, and we are convinced that if these threats are reversed the SRKW will recover. We are concerned, however, that the plan relies too much on further studies of threats that have already been documented and not enough on specific actions that can be taken now to reverse the decline in this population. We are also concerned that while the plan relies on adaptive management, which we support in principle, it is not specific regarding how new knowledge will be translated into actions that will directly support recovery of the SRKW.

Because the most critical portion of the SRKW annual life cycle is spent in the San Juan Islands, the health of our local ecosystem is essential to their well being and survival.

However, as the information in the recovery plan makes clear, the SRKW roam over waters between northern Vancouver Island and San Francisco Bay. Because of this, we recognize that SRKW recovery will require coordination of conservation strategies throughout this range. This has several implications, which should be made more explicit in the recovery plan. This includes making a strong link between the orca recovery plan and recovery plans for listed salmon, but it also means assuring that salmon populations that are not listed continue to have productive habitats and sustainable harvest and hatchery management plans. This includes linking to salmon habitat protection and recovery efforts in the United States, but it also means linking to similar efforts on the Canadian side of the border because these orcas do not care about the nationality of their prey. This includes designating critical habitat in the inland waters where many people live and frequently observe these whales, but it also means protecting the ocean habitats that we know the whales pass through on their migrations between northern California and Vancouver Island.

Support for Local Regulatory and Voluntary Efforts

A number of San Juan County organizations and agencies have been working to protect the SRKW population for a long time. The recovery plan should recognize this work and include strategies that will support and build on these efforts or processes. We feel that greater success will be achieved sooner using existing successful processes rather than creating new parallel ones. We give three examples of local processes here, but there are others.

San Juan County Marine Stewardship Area. In January of 2004 all San Juan County waters were designated as a marine stewardship area (MSA) by the Board of County Commissioners. Following a two-year structured planning process, the MRC has developed a draft list of management strategies for the MSA and is currently vetting these with the local community, other stakeholders, and marine resource managers. In June the MRC will present an MSA plan to the San Juan County Council. The orca recovery plan should incorporate the MSA plan because it directly supports the ecosystem upon which these animals rely. We relied on much of our work to date on the MSA plan to develop many of the comments and suggestion for the recovery plan included in this letter.

Soundwatch. Since vessel disturbance is one of the three major threats recognized in the plan, boater education should be a major focus of the recovery actions. The Soundwatch program has a demonstrated record of success in informing boaters about how to avoid disturbance of whales. Daily they change boaters' behavior in ways that directly contribute to orca recovery. This recovery plan should include stronger financial support for the successful Soundwatch program.

Critical Areas Ordinance and Shoreline Master Programs. The orca plan should recognize the value and importance of local land use management tools, such as the Critical Areas Ordinance and Shoreline Master Program for protecting fish and wildlife and the habitat they rely on. Providing guidance for local jurisdictions by supplying

effective language and model policies to assure that development is consistent with orca recovery would be an effective action that could be implemented right away. The plan should advocate technical guidance and financial assistance for local governments so that these programs can be part of SRKW recovery.

The following comments address specific sections of the plan or actions proposed to address specific threats.

Habitat

The plan should improve the way it addresses the scope and extent of threats to habitat known to be used by the SRKW, by salmon, and the prey that salmon rely on. For example, direct and indirect impacts of certain land development practices on forage fish affect the prey base for outmigrating juvenile salmon, as well as for the whales themselves, who eat herring as well as salmon. The current critical habitat designation does not acknowledge the key role that nearshore habitats play in supporting the SRKW prey base. Additional research is needed on year round habitat utilization by the SRKW. As we have commented to you previously, critical habitat should include the areas used by the whales year-round, including the outer coast.

The recovery of the SRKW depends on the health of the whole ecosystem that they are at the apex of. The connection between the orcas and the ecosystem is weak in the draft plan and must be made stronger if the plan is to be effective. One way to do this would be to make a direct connection to recovery measures necessary for salmon and their prey. These connections could be made by incorporating salmon management and recovery plans as part of this orca recovery plan. Habitat critical for salmon and forage fish seems to us to be also critical for orcas, and should be recognized as such.

Vessel Operations

The plan should include a combination of regulatory and voluntary tools for addressing the threat of disturbance from vessels. The Whale Museum and Soundwatch have substantial data detailing the presence and activities of commercial and recreational boaters in whale territories and have documented resulting impacts on the SRKW population. This plan should be far more explicit in recommending appropriate vessel behavior within ½ mile of whales and describe appropriate behavior in prime whale habitats (which have been mapped) regardless of whether whales are present.

We support including specific vessel behavior management techniques in the plan such as:

- Speed limits to prevent collisions with whales, reduce noise from propellers and engines, and reduce the volume of combustion pollutants released at the water surface.

- Require that vessels within 1/2/ mile of whales direct exhaust up into the air to reduce pollutants at the water surface.

- Identify hot spots and times when boat traffic and whales traffic are likely to coincide. Use this understanding to educate boaters and inform potential regulations to limit vessel-whale encounters.

- Implement a radio intervention system to inform vessels of their position in relation to whales and advise boaters to modify their course and speed to avoid interactions with whales.

- Restrict vessel traffic in high orca use areas during months when whales occupy these waters and when salmon runs coincide with the presence of SRKW. Explore where these zones should be expanded.

- Adopt and publicize guidelines, such as K.A.Y.A.K., for appropriate behavior of human powered vessels o avoid disruptive interactions with orcas.

Pollutants

Contaminants are shown in the literature to affect the mortality of marine mammals, but this threat is only weakly addressed in the plan. The plan should include specific actions to reduce point and nonpoint sources of pollution, including, but not limited to, banning the use of contaminants known to be toxic to marine mammals in the Puget Sound basin.

The plan should require that cities and counties adjacent to marine waters implement comprehensive stormwater management programs that meet water quality standards for runoff and that water quality monitoring and reporting is conducted to monitor the effectiveness of these programs. Source control activities should require improved management of pollution form highways and public roads. Programs should be in place to prevent illicit discharges and respond to water quality violations.

Little is known about the impacts to orca whales form pharmaceuticals, flame retardants and personal care products. Research to improve understanding of how these chemical enter the marine environment, how they pass through the food chain, and what their effects on orcas are should be part of this plan.

Oil Spills

The plan treats the risk of catastrophic oil spills as a secondary threat, but it does not appear to address chronic entry of oil into the ecosystem at all. The latter source includes runoff of oil from roads, chronic spills from marine fueling, and other chronic events such as bilge pumping. The annual cumulative amount of oil entering the greater Puget Sound region from roads alone has been estimated to be equivalent to the amount of oil spilled from the Exxon Valdez. Thus the cumulative effect of numerous small chronic oil spills is at least as great a threat as the risk of a catastrophic spill and should be addressed in the plan.

The section of the plan addressing the risk of catastrophic spills appears to be optimistic, given the fact that each year ships transport about 15.8 billion gallons of crude oil and refined oil products through Puget Sound. The increasing number of vessels and volume of oil carried amplify the risk of oil spills in the region. A catastrophic oil spill coinciding in time and location with a congregation of the SRKW could wipe out the entire DPS in one day. This, we believe that this threat deserves to be moved to the top rank. We believe the plan should support funding a year-round rescue tug at Neah Bay as a means of reducing both the probability and effect of a catastrophic oil spill. Similarly the local Islands Oil Spill Association should receive recognition and funding given their ability to mobilize to limit the effects of both chronic and catastrophic oil spills. We also believe that the plan should clearly support the limits to tanker traffic defined by the Magnuson Act. Consideration of the proximity of refineries to critical whale habitat should be part of environmental review of any refinery maintenance, management, and expansion plans.

Small Population Size

To reduce threats that afflict small populations, the plan should describe a strategy to increase the SRKW population above dangerous levels as quickly as possible. Actions aimed at reversing prey depletion, reducing disturbance from noise, and other protections could be given high priority where they would protect the animals at the life stages most critical for reversing the current downward population trend. These life stages should be identified based on current research targeted to this question. Identifying and focusing on specific factors that would most rapidly increase the population would be more effective than the vague blanket approach to the small population size threat described in the plan.

Disease

The actions proposed to address the top three threats: reduced prey, contaminants, and disturbance, also address the factors believed to increase the likelihood of disease. To these, we would add the threat from chronic oil spills, which also probably result in reduced resilience of the orcas to disease. Action category 2.2 directly addresses the effects of infectious diseases through monitoring and preventing the introduction of pathogens that infect orcas form entering the marine environment. This appears to be sufficient to address this threat given our current level of knowledge.

Prey Availability

The draft recovery plan makes a good case for the dependence of the SRKW on Chinook salmon as a primary prey species among the more than 22 species of fish they are known to eat. The plan should take the next step of linking the recovery of orcas directly to the salmon recovery plans already developed, particularly the *Puget Sound Salmon Recovery Plan* officially accepted by NOAA on January 19, 2007. Chinook salmon in the orcas' primary summer feeding area in the San Juan islands come form an area ranging from northern British Columbia to the upper Columbia River, as reported in the San Juan Islands chapter of the Puget Sound recovery plan. Therefore, the orca recovery plan should acknowledge and link with existing salmon recovery plans from these other areas

to the extent possible. We strongly suggest that NOAA formally adopt these salmon recovery plans as part of the SRKW recovery plan.

The draft recovery plan appears contradictory in regards to salmon recovery. In some places, it states that salmon may require 100 years to recover. Elsewhere, it seems to assume that salmon recovery will be successful in a shorter time period. It rates the recovery of salmon as high for feasibility of mitigation (p 74) yet it states that most stocks form British Columbia to California will continue to dwindle throughout the 21st century (p 84). These mixed messages should be reconciled in the plan. The best way to accomplish this reconciliation is to adopt existing and future salmon recovery plans as part of the orca recovery plan.

The plan does not include an accounting of the total salmon needs for SRKW or other marine mammals (e.g. data of Steve Jeffries et al. on pinniped consumption of salmon). The cumulative needs of marine mammals for salmon as prey, both in terms of total amount and in terms of location and timing, should be brought out in this plan, and fed back into the adaptive management processes for the salmon recovery plans. This plan should call for reviewing recovery goals and management strategies for salmon in light of the predation needs of marine mammals, including orcas.

The proposal to review hatchery programs that produce salmon with long Puget Sound residency periods seems to be missing the point that it is the sources of pollution that should be controlled rather than just their pathway through the food chain. We expect that these toxins would find their way up the food chain to the whales whether or not resident Chinook salmon were present.

Because of the importance of all forage fish to salmon and because herring are directly preyed on by orcas, the plan needs to place more emphasis on protection of forage fish habitat should include actions to reverse declines in herring stocks, such as the Cherry Point stock. Efforts to protect and restore natural shoreline habitat and reduce shoreline modification should be supported and expanded because these actions are necessary for healthy forage fish and salmon populations.

Research Needs

Little is known about the SRKW migratory routes and the threats they encounter during the time they spend away from the San Juan Islands and Puget Sound. However, these threats are no less significant to the orcas than are the threats we know more about. Therefore, it is imperative for the plan to call for and support research to fill this knowledge gap so that the SRKW can be effectively protected throughout their range and throughout the year. The local Center for Whale Research, for example, is conducting such studies.

Climate Change

Our stewardship area planning work suggests that climate change is a threat of very high significance to marine mammals, including orcas. The draft recovery plan does not consider climate change as a threat, and therefore actions addressing climate change are not part of the action plan. In fact, climate change may affect orcas in at least two ways. Direct effects, stemming from increases in ocean temperatures and changes in circulation patterns, include reduction in primary and secondary production, which will be transmitted up the food chain resulting in reduced orca productivity. Indirect effects include disruption of the ecological and physical processes affecting the habitats used by primary orca prey, such as salmon and forage fish. This significant omission should be rectified in the final plan. Actions to address climate change can be grouped into two categories: mitigation and adaptation. By recognizing climate change as a significant threat to orcas, the recovery plan could promote region-wide awareness of this threat and help motivate action in both of these categories.

Cultural Importance of Killer Whales to Tribes

The MRC places high importance on respecting and honoring the cultural and spiritual values of local Indian tribes. In addition, the Interior/Commerce Secretarial Order of 1997 requires federal agencies to "be sensitive to tribal cultural and spiritual values" in ESA consultations. This draft orca recovery plan does not appear to honor the federal government's obligations in this area. For example, NOAA has been provided with specific information regarding the cultural and spiritual importance of orca whales to the Tulalip Tribes, yet this information has not been part of any NOAA documents on the orca listing or orca recovery. The orca recovery plan should include information on tribal cultural and spiritual connections to orcas as background for why recovery of the SRKW is essential. NOAA should recognize their obligations to tribes as a key reason for restoring the SRKW. The plan should also include tribes as a key component of the public outreach actions under action category 3. The stories the tribes have to tell about the cultural and spiritual importance of orcas should be a principal component of the recovery message.

Tribal Treaty Rights

The MRC places high importance on respecting the sovereignty of local tribes and the rights they reserved under the Treaty of Point Elliott. The draft orca recovery plan does not appear to sufficiently acknowledge the rights and authorities of tribal governments for management of many of the resources that orcas will depend upon for recovery. Further, access to culturally important resources is among the rights reserved in the treaty. In addition, there are certain conservation principles in the law and in the Interior/Commerce Secretarial Order of 1997 that require federal agencies to not restrict tribal activities until and unless the conservation purpose cannot be achieved by regulation of non-Indian activities only. These principles and legal mandates do not appear to have been adequately taken into account in the draft recovery plan, and the final plan should be modified accordingly.

We appreciate the opportunity to help shape the plan and offer our further assistance in implementation. We look forward to joining in the effort to bring about the recovery of the Southern Resident Killer Whales. If you have any questions about these comments or wish to contact us for any other reason, please contact Mary Knackstedt, Coordinator for the San Juan County Marine Resources Committee, sjcmrc@rockisland.com 360-378-1095.

Sincerely,

Kit Rawson
Chair
San Juan County Marine Resources Committee

Cc: San Juan County Council
Pete Rose, San Juan County Administrator

STATE OF WASHINGTON
PUGET SOUND ACTION TEAM
OFFICE OF THE GOVERNOR
P.O. Box 40900 • Olympia, Washington 98504-0900
(360) 725-5444 • (360) 725-5456

February 27, 2007

Chief, Protected Resources Division
1201 NE Lloyd Blvd., Suite 1100
Portland, Oregon 97232
orca.plan@noaa.gov.

Re: Comments on the Proposed Recovery Plan for Southern Resident Killer Whales

Dear Chief:

The Puget Sound Action Team considers the adoption and implementation of a recovery plan for the Southern Resident orca a very high priority and we commend you on preparing a very complete proposed plan.

Because of their annual association with the waters around the San Juan islands, the Southern Resident orca are well known to the residents of the Puget Sound basin. While there may be some resistance to specific actions, there is overwhelming support in the Puget Sound basin for the actions needed to recover orca.

Research by NOAA and others is showing that the continental shelf from California to British Columbia provides crucial winter feeding habitat for a significant portion of the stock. Given the importance of this habitat, we believe that the final recovery plan should include additional management measures addressing these areas.

Management measures outlined to rebuild depleted populations of prey (in 1.1) refer to efforts on a "region-wide" basis. The final plan should clarify the full range of prey populations, especially the Chinook salmon that support the Southern Resident orca in Puget Sound but also within the relevant watersheds in California and Oregon.

The management measures grouped under 1.2 do an excellent job of describing efforts to control toxics in Puget Sound and the Georgia Basin but don't speak to the actions needed in the Columbia River, Oregon and California. Again, management measures to reduce the threat from toxics should be included for these areas.

The proposed plan contains important management measures to deal with disturbances by vessels in the summer range of the Southern Resident orca. With recent media coverage of the

Southern Residents foraging along the California coast, it is possible that they will become a target for commercial and private whale watching along the coast. It is important that these areas also be covered by the programs regarding whale watching and vessel interactions. Measure 2.3, dealing with acoustic sources, should be expanded to clarify that seismic exploration and other acoustic sources along the coast need to be reviewed for possible conflicts with the Southern Residents.

We support the education measures in the proposed plan. A clear process is needed to make sure the latest research findings are provided to the numerous groups providing public information and education. And again, the management measures need to also target areas outside the Puget Sound basin. Any place along the California or Oregon coast where the Southern Residents have been sighted should receive public information and education to build on media coverage of the whale migrations.

As recognized in the proposed recovery plan, there are still many research and monitoring questions to be addressed. We support the basic outline of the research and monitoring identified in the plan. Studies on prey, especially questions of whether orca are limited by critical periods of scarce food resources (B.6.1.3), are needed. Assessing the current exposures to toxic chemicals (B.6.3.1-B.6.3.4) seems very important, given the extensive sediment cleanups being undertaken in Puget Sound.

With completion of the recovery plan will come the need for interagency coordination and funding for implementation. Governor Gregoire has proposed a new Puget Sound Partnership, as an agency of the State of Washington, to coordinate environmental efforts in the Puget Sound basin, including the recovery of orca and listed salmon stocks. We expect that the new Puget Sound Partnership will be able to play an important role in ensuring the actions necessary for orca recovery are taken. If the new agency is not created, then the Puget Sound Action Team will continue to work with NOAA to support recovery of the Southern Resident orca.

Respectfully,

Brad Ack
Director

PORT of TACOMA U.S.A.

March 8, 2007

Chief
National Marine Fisheries Service
Protected Resources Division
1201 NE Lloyd Blvd., Suite 1100
Portland, Oregon 97232

Re: Proposed Recovery Plan for Southern Resident Killer Whales (*Orcinus orca*)

Dear Sir or Madam,

The Port of Tacoma (Port) has reviewed the Proposed Recovery Plan for the Southern Resident Killer Whale Distinct Population Segment (DPS) (NMFS 2006). While I understand that this comment letter is late, I hope that you consider them and find them helpful.

We are concerned about the use of "threats criteria" in delisting and downlisting decisions. The Port believes that inclusion of these criteria, as written, will render it nearly impossible to ever delist or downlist this species even with defensible data that supports a conclusion of recovery. Delisting criteria should be based primarily on "biological criteria" that relate to population parameters, and not on potential threats that are difficult or impossible to quantify.

The Port believes that National Marine Fisheries Service (NMFS) has very good information on pertinent population parameters for this DPS. NMFS has precise counts of individuals, and understands age-class distribution, age-specific survival, fecundity, and habitat use throughout its range. The confidence that NMFS has in the data for this DPS is likely higher than for any other aquatic population of any species. The decision to list the DPS as endangered was based on a rigorous biological evaluation that examined trends in population parameters that have been incorporated into appropriate "biological criteria" in the Proposed Recovery Plan. The "biological criteria" as listed are:

1) *Positive population growth (i.e., more individuals entering the population than being removed) over a time frame long enough to encompass expected environmental and stochastic variability.*

2) *An adequate number of individuals of both sexes and mixed ages, distributed among the three pods, to make it unlikely the population will fall below a threshold at which it is in danger of extinction during inevitable periods of low survival or productivity.*

P.O. Box 1837 • Tacoma, Washington 98401-1837 • Telephone: (253) 383-5841

These are appropriate biological criteria because they are: 1) tied to population parameters, 2) can be measured with confidence, and 3) were the basis for the listing decision. These biological criteria integrate all of the factors influencing the Southern Resident Killer Whale DPS including the realized effects of the vague issues raised as threats criteria. If these biological criteria are met, then the population is thriving and can be objectively concluded to be appropriate for delisting or downlisting.

In contrast, the threats criteria in the Proposed Recovery Plan are not supported by substantial data, are vague as written, and were not used as primary justification for the listing decision. However, the Proposed Recovery Plan states that "the same five statutory factors must be considered in delisting as in listing," in threats criteria. The following lists the threats criteria and provides the Port's comments on each.

Factor A: The present or threatened destruction, modification, or curtailment of a species' habitat or range.

Criteria:

1. *Observations indicating that lack of prey is not a source of mortality or a factor limiting recovery of Southern Residents. Consistent observations or measurements of good body condition in a significant number of individuals, and no or limited observations of reduced feeding behavior or recovery of emaciated stranded animals.*

    - This is not a parameter that can be measured and trends in the biological criteria will provide objective evidence of whether such sources of mortality are cumulatively limiting recovery of the population.
    - This criterion should be deleted.

2. *Sufficient knowledge of the foraging ecology of Southern Residents to determine that established fishery management regimes are not likely to limit the recovery of the whales.*

    a. *Fisheries management programs that adequately account for predation by marine mammal populations when determining harvest limits, hatchery practices, and other parameters.*

        - This criterion is vague but still maybe useful.
        - This criterion should be retained.

    b. *Fisheries management programs consistent with recovery of salmon stocks and supports sustainable salmon populations.*

- This is not a parameter that can be measured and trends in the biological criteria will provide objective evidence of whether such sources of mortality are cumulatively limiting recovery of the population.
- This criterion should be deleted.

3. *Contaminant levels in killer whales, prey species or surrogate marine mammal populations in the greater Puget Sound area that indicate a reduction or slowing of accumulation of legacy contaminants, such as PCBs and DDTs. This could include data showing that overall contaminant levels in the population are decreasing or stablized, or information that younger animals have reduced or stabilized contaminant load. A decrease in the number of contaminated sites in Puget Sound would also indicate a reduction in contaminants in a portion of the habitat of Southern Resident killer whales.*

- Appropriate criterion with a measurable endpoint as edited.
- There should be no requirement for decreasing levels because the significance of the current contaminant levels is not well understood. If the population were thriving at current contaminant levels there would be no reason to require a decrease as part of a delisting or downlisting decision.
- This criterion should be retained as edited.

4. *Management actions in place to reduce vessel disturbance, auditory masking and risk of ship strikes. Voluntary guidelines, education programs and prohibitions under the MMPA are currently in place and regulations and/or protected areas should be evaluated to determine if they will provide additional reduction in vessel effects.*

- This criterion is vague although the actions are appropriate to consider as part of overall management, research, and Section 10 consultations.
- This criterion should be deleted and Factor B, Criteria 1 below used to address the issue.

Factor B: Overutilization for commercial, recreational, or educational purposes

1. *Reduction in impacts from commercial and recreational whale watching, or evidence that this activity does not cause population level effects. Reductions may be measured through fewer incidents reported in the vicinity of whales, increased audiences for education programs and establishment of regulations or protected areas if needed (see Factor A, Criteria 4)*

- Appropriate criterion with measurable endpoint.
- This criterion should be moved to address and replace Factor A, Criteria 4

2. *No permanent removals of individual Southern Residents from their habitat, including live capture for public display, and no incidental or deliberate mortalities associated with fisheries or other activities.*

    - This criterion is out of place. Take is illegal under the ESA.
    - This criterion should be deleted.

Factor C: Disease or predation

1. *Sufficient knowledge to determine that disease is not limiting the recovery of Southern Resident killer whales.*

    - This is not a parameter that can be measured and trends in the biological criteria will provide objective evidence of whether such sources of mortality are cumulatively limiting recovery of the population.
    - This criterion should be deleted.

Factor D: The inadequacy of existing regulatory mechanisms

1. *There is monitoring of levels of emerging contaminants, such as PBDEs, in Southern Residents, prey species, and surrogate marine mammal populations in the greater Puget Sound area to evaluate baseline conditions and trends.*

    - Appropriate criterion with a measurable endpoint.
    - This criterion should be retained.

2. *There are regulations to stop introduction of harmful contaminants, and there is evidence of decreasing levels of contaminants detected in Southern Residents, prey species, or surrogate marine mammal populations, or evidence that there is no harm to the whales.*

    - Regulations are already in place to limit introductions of contaminants. There is no evidence provided in the listing decision that demonstrates that current regulations are inadequate.
    - This criterion should be deleted and the issue addressed as part of Factor A, Criteria 3 above.

3. *There is a reduction in impacts from commercial and recreational whale watching, or evidence that this activity does not cause population level effects. Reductions may be measured through fewer incidents reported in the vicinity of whales, increased audiences for education programs and establishing regulations/protected areas if needed (see Factor A, Criteria 4).*

    - This criterion is redundant with Factor B, Criteria 1
    - This criterion should be deleted.

Factor E: Other natural or manmade factors affecting its continued existence.

1. *Effective oil spill response plan wildlife brand section of NWACP with component for killer whales is in place.*

    - Appropriate criterion with a measurable endpoint.
    - This criterion should be retained.

2. *Effective oil spill prevention plans in place that are no less protective than those in place at time of listing.*

    - This criterion is redundant with Factor E, Criteria 1, above.
    - This criterion should be deleted.

3. *Continuation of annual census to assess the population status.*

    - This is a key element of the monitoring necessary to evaluate the biological criteria. It does not appear to be appropriate as a threat criteria.
    - This criterion should be deleted.

4. *Effective research program in place to evaluate risks to Southern Resident killer whales.*

    - This is a key element of the monitoring necessary to evaluate the biological criteria. It does not appear to be appropriate as a threat criteria.
    - This criterion should be deleted.

5. *Increase knowledge of distribution, habitat use and potential risks to the population in the coastal portion of its range.*

    - This is a key element of the monitoring necessary to evaluate the biological criteria. It does not appear to be appropriate as a threat criteria.
    - This criterion should be deleted.

The Port of Tacoma believes that future delisting and downlisting decisions for the Southern Resident Killer Whale DPS should be based primarily on objective biological criteria. Further, the threats criteria should be modified and focused so that they complement and clarify the biological criteria without confounding future decisions.

If you have any questions on these comments, please call me at (253) 428-8659, or Michael Shaw at (253) 830-5321.

Sincerely,

Sue Mau

Sue Mauermann
Director of Environmental Programs
Port of Tacoma

February 27, 2007

Chief, Protected Resources Division
National Marine Fisheries Service
1201 NE Lloyd Blvd., Suite 1100
Portland, OR 97232-1274
Email: orca.plan@noaa.gov

Re: Comments on Proposed Recovery Plan for Southern Resident Killer Whales

To Whom It May Concern:

The Puget Sound Endangered Species Act ("ESA") Business Coalition ("the Business Coalition") appreciates this opportunity to comment on the National Marine Fisheries Service's ("NMFS") proposed recovery plan for Southern Resident killer whales (*Orcinus orca*).[1]

The Business Coalition is composed of businesses involved in transportation, development, real estate, energy, construction and the forest products industry in Puget Sound, Washington. We have been active in the Puget Sound Chinook salmon recovery planning process for the past eight years, and we meet regularly to discuss a range of ESA issues. The Business Coalition strongly supports responsible species conservation, and we support and encourage NMFS' efforts to evaluate and disclose the economic impacts of its regulatory actions on the region consistent with the requirements of the ESA and other federal laws.

The Business Coalition recognizes the rapid progress NMFS has made in developing a draft recovery plan for Southern Resident killer whales. However, as many would attest, achieving and maintaining recovery under the ESA requires collaboration among a range of stakeholders, including the federal government, state government, Indian tribes, regulated industry, and nongovernmental organizations. Recovering killer whales in Puget Sound, Washington, will not be an exception. Such collaboration will be a key to securing long-term support and funding for killer whale conservation programs in view of many competing regional priorities.

Aside from collaboration with local interests, NMFS has recognized the value of preparing multi-species recovery plans when practical and feasible. In this regard, the Business Coalition believes an important opportunity now exists to integrate killer whale recovery planning with ongoing efforts to recover Puget Sound Chinook salmon, and to improve the health of Puget Sound. Killer whales depend on salmon as their primary food source. Conservation and regulatory measures benefiting salmon will thus also benefit killer whales. NMFS should seize this opportunity to engage in true multi-species conservation

[1] See 71 Fed. Reg. 69101 (November 29, 2006).

planning by learning from recent successes with the Shared Strategy, and applying these lessons to Southern Resident killer whales.

Beyond the technical, killer whales are an icon indicative of the culture and heritage that we in Puget Sound are proud to claim as our own. Killer whale recovery can and should serve as an important motivating force to improve the health of Puget Sound. We believe the public and members of Congress support killer whale recovery, and as a result, may be more willing to support efforts to improve the ecosystem upon which this species depends. Thus, incorporating killer whale recovery planning into regional conservation initiatives will motivate parties to undertake and sustain necessary conservation actions.

Recommendations for Action

Achieving the objectives outlined above will not be easy, nor will it be done quickly. In our experience, the Shared Strategy process provides a collaborative model NMFS should emulate. First and foremost, we recommend that NMFS convene a recovery team consisting of local experts to review and comment upon the draft recovery plan. Through this process, NMFS could engage people to advise the agency as it develops a final recovery plan. As active participants in the Shared Strategy, we believe the Chinook salmon recovery planning process benefited greatly from the wide range of experts and stakeholders that participated in that effort.

Second, NMFS and its recovery team should review closely the recently-adopted Chinook salmon recovery plan, and explore ways to integrate killer whale recovery actions with this recovery plan. Through this process we believe that common themes may emerge that enable NMFS to identify and prioritize key conservation actions that will benefit the widest range of species and habitats.

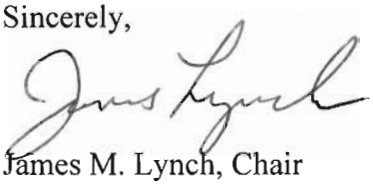
Third, NMFS should develop site-specific recovery actions, and objective, measurable criteria to assess such actions. These specific recommendations will be crucial to establish funding and regulatory priorities. Such recommendations will also help guide future ESA consultations involving killer whales and other listed species.

Finally, NMFS should evaluate and disclose the costs and timelines for recovery actions. Doing so will assist the agency, the region, and Congress in developing a realistic assessment of social, economic, and regulatory hurdles that must be overcome to permit species recovery.

We are attaching for your consideration a list of Business Coalition principles for salmon recovery. We believe the same principles should apply to the Recovery Plan for Southern Resident killer whales. In particular, we urge you to fully evaluate the social, economic, and environmental impacts of recovery plan actions to insure the public understands the true costs and benefits of killer whale conservation. Development and disclosure of such information will provide a basis to make future decisions, and to prioritize the use of limited economic resources.

Thank you for considering these comments on the draft recovery plan for Southern Resident killer whales. The Business Coalition stands ready to work with NMFS and other parties on these matters. Please feel free to contact me at (206) 370-6587 if you have any questions regarding these comments.

Sincerely,



James M. Lynch, Chair
Puget Sound ESA Business Coalition
K&L Gates
925 Fourth Ave., Suite 2900
Seattle, WA 98104-1158
jim.lynch@klgates.com

Attachment: ESA Business Coalition Salmon Recovery Principles

Cc: Vice Admiral Conrad Lautenbacher (Ret.), NOAA Administrator
Undersecretary of Commerce for Oceans and Atmosphere

Robert Lohn, Regional Administrator
NMFS Northwest Region

Gov. Christine Gregoire

Senator Maria Cantwell

Senator Patty Murray

Representative Norm Dicks

Puget Sound ESA Business Coalition
Salmon Recovery Principles

The business community is committed to region-wide recovery planning that is science-based, incorporates economic considerations, and recognizes other state and local government priorities. We support a two-step approach to salmon* recovery: first, achieve ESA delisting; second, move toward sustainable, harvestable levels of salmon primarily through incentives and voluntary efforts.

The following are principles supported by the Puget Sound ESA Business Coalition:

1. Salmon recovery must be based on local and regional plans that are developed and implemented at the local level.
2. All salmon recovery plans must be based in science, law and the principle of adaptive management.
3. More scientific research is required to determine all of the contributing factors to the ESA listing of salmon, especially in urban and highly altered environments.
4. Recover salmon in the context of the Growth Management Act (GMA) while meeting the Act's identified and intended goals, including an adequate affordable housing supply.
5. Protect salmon through better utilization of existing regulations, ordinances, best management practices and permit requirements rather than creating new regulations or ordinances (except where justified under principles 1-3).
6. Salmon recovery plans must maximize cost/benefit and be consistent with maintaining the economic vitality of the Puget Sound region.
7. Provide fair compensation for property or property rights taken or damaged in order to protect salmon.
8. Establish equitable, comprehensive, broad-based financing schemes to pay for the cost of salmon protection and recovery.
9. Federal and state governments should provide adequate funding and other resources for compliance with salmon habitat requirements under ESA.
10. Federal agencies should streamline the process and broaden the scope of programmatic Section 7 consultation practices for public and private projects and land use activities.
11. Eliminate duplicative or overlapping regulations or oversight in salmon recovery.
12. Management of all harvesting must be controlled and monitored if salmon are to recover.
13. Improved hatchery management practices are critical to recovery of salmon.
14. The business community will participate in watershed plan development and implementation.

*Salmon are defined as ESA-listed Puget Sound Chinook, Hood Canal Chum and bull trout.
Updated 10/02

6700 TOTEM BEACH ROAD
TULALIP, WA 98271-9694
(360) 651-4000
FAX (360) 651-4032

February 23, 2007

Lynne Barre
NOAA Fisheries, Northwest Region
7600 Sand Point Way NE
Seattle, WA 98115

Dear Ms. Barre:

I appreciate the opportunity to provide comments on the *Proposed Recovery Plan for Southern Resident Killer Whales* on behalf of the Tulalip Tribes of Washington. The orca whale, which our people usually call the blackfish, or *qál'qaləx̌ič* in our native Lushootseed language, is the symbol of the Tulalip Tribes because of its close cultural and spiritual connection with our people. Because of this close connection with *qál'qaləx̌ič*, the Tulalip Tribes are very interested in the recovery of the Southern Resident Killer Whale (SRKW) distinct population segment.

Cultural and Spiritual Importance of *qál'qaləx̌ič* to the Tulalip Tribes

My grandmother told me many stories about the huge blackfish *qál'qaləx̌ič*. Tossing seals upon the beach, they fed our people during times of famine. Older people referred to them as similar tribes roaming the surrounding waters. We held them in high regard both culturally and spiritually. As a young fisherman, I would drift with an open boat netting salmon. It was in this very calm time that they would come to visit me. Breaking water only twenty feet from my boat, they would gently brush along the side. I felt that in these moments we communicated, and created a friendship, a spiritual connection. Indian people of that day respected them and looked upon their arrival as a good sign. They would jump out of the water at Camano Head and create a great splash. The roaring echo could be heard for a great distance. This was done to announce to us that our relatives are visiting. When we fished *spə'bəh'da* they would drive the salmon into the rivers and shore to feed our people. They were important to us then, just as they are now.

The Tulalip people and the orcas have coexisted in harmony since the people first arrived here. The Tulalip Tribes chose the whale for a logo because *qál'qaləx̌ič* came to the assistance of the *S√duhúbš* people (Snohomish, one of the predecessors of the Tulalip Tribes) many years ago. At one time the *S√duhúbš* people were going through a famine. All of the food sources fish, elk, deer, clams, crabs, etc., were depleted or not available. The people were so hungry that they cried and prayed that the great spirit, *dʷukwəbulth*, would help them. And it was *qál'qaləx̌ič* heard the cries and prayers of the people and decided to help them.

The whale came across some seals so he chased and herded them to the deep waters off of Priest Point, which was a village site of the *S√duhúbš* people at one time. *qál'qaləxič* herded the seals close to the shore. Then he took one seal at a time into his mouth and tossed it onto the beach so that the people would have something to eat. The whale tossed enough seals onto the beach so that the people had enough to eat and made it through the famine. Therefore, *qál'qaləxič* has always been honored by the Tulalip people for helping them during this time of need.

Because your agency is already aware of these facts, because you have an obligation under the 1997 Interior/Commerce Secretarial Order to "be sensitive to tribal cultural and spiritual values" in ESA consultations, and because access to culturally important resources a treaty-reserved right, I am surprised that the importance of orca whales to the tribes is not reflected in this document. The recovery plan should include information on tribal cultural and spiritual connections to orcas as background for why recovery is essential. The plan should also include tribes as a key component of the public outreach actions under action category 3. The stories the tribes have to tell about the cultural and spiritual importance of *qál'qaləxič* should be a principal component of the recovery message.

Tribal Sovereignty and Treaty Rights

As an agency of the United States Government, NOAA is obliged to respect the sovereign status of the Tulalip Tribes and honor the rights the tribes reserved under the Treaty of Point Elliott. The draft orca recovery plan does not appear to sufficiently acknowledge the rights, authorities, and special expertise of tribal governments for management of many of the resources that orcas will depend upon for recovery, especially salmon. In addition, there are certain conservation principles in the law and in the 1997 Interior/Commerce Secretarial Order that require federal agencies to not restrict tribal activities until and unless the conservation purpose cannot be achieved by regulation of non-Indian activities only. The plan does not discuss the interaction between activities essential for maintenance of tribal culture, such as fishing, and the recovery of orcas. Finally, although some tribal management authorities and responsibilities are acknowledged in the table of recovery measures and costs near the end, there is no recognition of tribal sovereignty or of the requirement to recognize tribal regulatory authority and to consult with tribes on a government to government basis. The final version of this plan must be modified to take these important principles and legal obligations into account.

Connection to Salmon Recovery and Regional Issues

Because the most critical portion of the SRKW annual life cycle is spent in the San Juan Islands, within the Tulalip Tribes usual and accustomed fishing area, the health of our local ecosystem is essential to the whales' well being and survival. However, as the information in the recovery plan makes clear, the southern residents roam over waters between northern Vancouver Island and San Francisco Bay. Because of this, we recognize that recovery will require coordination of conservation strategies throughout this range. This has several implications, which should be made more explicit in the recovery plan. This includes making a strong link between the orca recovery plan and recovery plans for listed salmon, but it also means assuring that salmon populations that are not listed continue to have productive habitats and sustainable harvest and hatchery management plans. This includes linking to salmon habitat protection and recovery efforts in the United States, but it also means linking to similar efforts on the Canadian side of the border because these orcas do not care about the nationality of their prey. This includes

designating critical habitat in the inland waters where many people live and frequently observe these whales, but it also means protecting the ocean habitats that we know the whales pass through on their migrations between northern California and Vancouver Island.

The following comments address specific sections of the plan or actions proposed to address specific threats.

Habitat

The plan should improve the way it addresses the scope and extent of threats to habitat known to be used by the blackfish, by salmon, and the prey that salmon rely on. For example, direct and indirect impacts of certain land development practices on forage fish affect the prey base for outmigrating juvenile salmon, as well as for the whales themselves, which eat herring as well as salmon. The current critical habitat designation does not acknowledge the key role that nearshore habitats play in supporting the resident orcas' prey base. Additional research is needed on year-round habitat utilization by southern resident orcas. Critical habitat should also include the areas used by the whales year-round, including the outer coast.

The health of the orca whale populations, like the health of our people's culture, depends on the health of the entire ecosystem from the peaks of the Cascade and Olympic mountains to Puget Sound and the ocean. This critical connection between the people, the orcas, and the ecosystem is weak in the draft plan and must be strengthened if the plan is to be effective. One way to do this would be to make a direct connection to recovery measures necessary for salmon and their prey. This connection should be made by incorporating salmon management and recovery plans as part of this orca recovery plan. We believe that habitat critical for salmon and forage fish is also critical for orcas, and should be formally recognized as such. All of these pieces, and others, must be in place, so that the plan addresses the scale of he problem in an integrative manner, and includes all of the inland-coastal linkages in a mountain-to-sound approach

Vessel Operations

The tribes want to assure that treaty fishing vessel operations are not adversely impacted by a recovery plan until and unless all areas of increased vessel traffic, such as increases in commercial shipping, whale watching, ferry operations and recreational boating traffic are properly addressed. The proposed plan correctly notes that "changes in fishing regulations and declines in salmon abundance have reduced the number of commercial fishing boats present in recent decades." Nevertheless the treaty tribes would be concerned that treaty fishing operations not be adversely affected by the plan, given the continuing increases in other types of vessel traffic and given the already severe limitations on salmon fishing opportunities for the tribes today.

Pollutants

Our people are well aware of the way that environmental pollutants become concentrated in the food chain, because, like the southern residents, we eat fish and suffer the effects of increased concentrations of pollutants in our bodies. Contaminants are shown in the literature to affect the mortality of marine mammals, but this threat is only weakly addressed in the plan. The plan should include specific actions to reduce point and nonpoint sources of pollution, including, but

not limited to, banning the use of contaminants known to be toxic to marine mammals in the Puget Sound basin.

The plan should require that cities and counties adjacent to marine waters implement comprehensive stormwater management programs that meet water quality standards for runoff and that water quality monitoring and reporting is conducted to monitor the effectiveness of these programs. Source control activities should require improved management of pollution from highways and public roads. Programs should be in place to prevent illicit discharges and respond to water quality violations.

Little is known about the impacts to orca whales from pharmaceuticals, flame retardants and personal care products. Research to improve understanding of how these chemical enter the marine environment, how they pass through the food chain, and what their effects on orcas are should be part of this plan.

Oil Spills

The plan treats the risk of catastrophic oil spills as a secondary threat, but it does not appear to address chronic entry of oil into the ecosystem at all. The latter source includes runoff of oil from roads, chronic spills from marine fueling, and other chronic events such as bilge pumping. The annual cumulative amount of oil entering the greater Puget Sound region from roads alone has been estimated to be equivalent to the amount of oil spilled from the Exxon Valdez. Thus the cumulative effect of numerous small chronic oil spills is at least as great a threat as the risk of a catastrophic spill and should be addressed in the plan.

The section of the plan addressing the risk of catastrophic spills appears to be optimistic, given the fact that each year ships transport about 15.8 billion gallons of crude oil and refined oil products through Puget Sound. The increasing number of vessels and volume of oil carried amplify the risk of oil spills in the region. A catastrophic oil spill coinciding in time and location with a congregation of blackfish could wipe out the entire DPS in one day. Thus, this threat deserves to be moved to the top rank. The plan should support funding a year-round rescue tug at Neah Bay as a means of reducing both the probability and effect of a catastrophic oil spill. Similarly the local Islands Oil Spill Association should receive recognition and funding given their ability to mobilize to limit the effects of both chronic and catastrophic oil spills. The plan should clearly support the limits to tanker traffic defined by the Magnuson Act. Consideration of the proximity of refineries to critical whale habitat should be part of environmental review of any refinery maintenance, management, and expansion plans.

New Marine Technologies

NOAA must carefully evaluate any new marine technologies proposed for use in marine waters used by the blackfish, to analyze their potential affects on the recovery of the southern resident orcas. For example, the recent proposals for tidal energy development could potentially have a major impact on whale migration due to the size, number and proposed locations of the turbines. The full extent of the effects from turbine noise and electromagnetic radiation are unknown at this time. However, they are of concern because of the well documented detrimental effects of sound on orcas. You can find more information about proposed tidal energy installations at http://www.pstidalenergy.org/index.html. The recovery plan should address this type of development and other technologies that may be developed in the future.

Small Population Size

Small populations are characterized by loss of genetic diversity, which increases the risk of extinction. To reduce threats that afflict small populations, the plan should describe a strategy to increase the southern resident orca population above the current dangerously low levels as quickly as possible. Actions aimed at reversing prey depletion, reducing disturbance from noise, and other protections could be given high priority where they would protect the animals at the life stages most critical for reversing the current downward population trend. These life stages should be identified based on recent research and current research targeted to this question. Identifying and focusing on specific factors that would most rapidly increase the population would be more effective than the vague blanket approach to the small population size threat described in the plan.

Disease

The actions proposed to address the top three threats: reduced prey, contaminants, and disturbance, also address the factors believed to increase the likelihood of disease. To these, we would add the threat from chronic oil spills, which also probably result in reduced resilience of the orcas to disease. Action category 2.2 directly addresses the effects of infectious diseases through monitoring and preventing the introduction of pathogens that infect orcas from entering the marine environment. However, the plan needs to be stronger in emphasizing the need to reduce the susceptibility of the orcas to any diseases that may be inadvertently introduced.

Prey Availability

The draft recovery plan makes a good case for the dependence of the southern residents on Chinook salmon as a primary prey species among the more than 22 species of fish they are known to eat. We also know that transient orcas, whose prey is primarily pinnipeds, are present in our area. The plan should take the next step of linking the recovery of the orcas directly to the salmon recovery plans already developed, particularly the *Puget Sound Salmon Recovery Plan* officially accepted by NOAA on January 19, 2007. Chinook salmon in the orcas' primary summer feeding area in the San Juan islands come from an area ranging from northern British Columbia to the upper Columbia River, as reported in Table I of the San Juan Islands chapter of the Puget Sound recovery plan. Therefore, the orca recovery plan should acknowledge and link with existing salmon recovery plans from these other areas. NOAA should formally adopt these salmon recovery plans as part of the southern resident orca recovery plan.

The draft recovery plan appears contradictory in regards to salmon recovery. In some places, it states that salmon may require 100 years to recover. Elsewhere, it seems to assume that salmon recovery will be successful in a shorter time period. It rates the recovery of salmon as high for feasibility of mitigation (p 74) yet it states that most stocks from British Columbia to California will continue to dwindle throughout the 21st century (p 84). These mixed messages should be reconciled in the plan. The best way to accomplish this reconciliation is to adopt existing and future salmon recovery plans as part of the orca recovery plan.

The plan does not include an accounting of the total salmon needs for SRKW or other marine mammals (e.g. data of Steve Jeffries et al. on pinniped consumption of salmon). The cumulative needs of marine mammals for salmon as prey, both in terms of total amount and in terms of location and timing, should be brought out in this plan, and fed back into the adaptive management processes for the salmon recovery plans. This plan should call for reviewing

recovery goals and management strategies for salmon in light of the predation needs of marine mammals, including orcas. Salmon must recover to a level that will provide both food for orcas and fish for our people.

The proposal to review hatchery programs that produce salmon with long Puget Sound residency periods seems to be missing the point that it is the sources of pollution that should be controlled rather than just their pathway through the food chain. We expect that these toxins would find their way up the food chain to the whales whether or not resident Chinook salmon were present.

Because of the importance of all forage fish to salmon and because herring are directly preyed on by orcas, the plan needs to place more emphasis on protection of forage fish habitat should include actions to reverse declines in herring stocks, such as the Cherry Point stock. Efforts to protect and restore natural shoreline habitat and reduce shoreline modification should be supported and expanded because these actions are necessary for healthy forage fish and salmon populations.

Research Needs

Little is known about the southern residents' migratory routes and the threats they encounter during the time they spend away from the San Juan Islands and Puget Sound. However, these threats are no less significant to the orcas than are the threats we know more about. Therefore, it is imperative for the plan to call for and support research to fill this knowledge gap so that the orcas can be effectively protected throughout their range and throughout the year.

Climate Change

Climate change is a threat of very high significance to marine mammals, including orcas. The draft recovery plan does not consider climate change as a threat, and therefore actions addressing climate change are not part of the action plan. In fact, climate change may affect orcas in at least two ways. Direct effects, stemming from increases in ocean temperatures and changes in circulation patterns, include reduction in primary and secondary production, which will be transmitted up the food chain resulting in reduced orca productivity. Indirect effects include effects on ecological and physical process affecting the habitats used by primary orca prey, such as salmon and forage fish. Therefore, this is a significant omission, which should be rectified in the final plan. Actions to address climate change can be grouped into two categories: mitigation and adaptation. By recognizing climate change as a significant threat to orcas, the recovery plan could promote region-wide awareness of this threat and help motivate action in both of these categories.

Support for San Juan County Regulatory and Voluntary Efforts

The Tulalip Tribes participate in marine ecosystem protection in the San Juan Islands and recognize that a number of San Juan County organizations and agencies have been working to protect the orcas for a long time. The recovery plan should recognize this work and include strategies that will support and build on these efforts or processes. We feel that greater success will be achieved sooner using existing successful processes rather than creating new parallel ones. We give two examples of local San Juan County efforts here, but there are others worthy of support.

San Juan County Marine Stewardship Area. In January of 2004 all San Juan County waters were designated as a marine stewardship area (MSA) by the Board of County Commissioners. Following a two-year structured planning process, the county's marine resources committee (MRC) has developed a draft list of management strategies for the MSA and is currently vetting these with the local community, other stakeholders, and marine resource managers. In June the MRC will present an MSA plan to the San Juan County Council. The orca recovery plan should incorporate the MSA plan because it directly supports the ecosystem upon which these animals rely.

Soundwatch. Since vessel disturbance is one of the major threats recognized in the plan, boater education should be a major focus of the recovery actions. The Soundwatch program has a demonstrated record of success in informing boaters about how to avoid disturbance of whales. Daily they change boaters' behavior in ways that directly contribute to orca recovery. This recovery plan should include stronger financial support for the successful Soundwatch program.

Critical Areas Ordinance and Shoreline Master Programs.
The orca recovery plan should recognize the value and importance of local land use management tools, such as the Growth Management Act (GMA), Critical Areas Ordinance (CAO), and Shoreline Master Program (SMP) for protecting fish and wildlife and the habitats they rely on. Providing guidance for local jurisdictions by supplying effective language and model policies to assure that development is consistent with orca recovery would be an effective action that could be implemented right away. In order to assess the cumulative effectiveness of land use regulations on orca recovery, NOAA should collect and review all regulations adopted under the GMA and SMP, including CAOs from all local jurisdictions within the area draining into Puget Sound, the Whidbey Basin, Georgia Strait, and the Strait of Juan de Fuca. These should be in electronic format, with buffer widths georeferenced, so that regulations can be compared and analyzed across jurisdictions. The orca recovery plan should advocate providing technical guidance and financial assistance for local and tribal governments to facilitate managing land use consistent with SRKW recovery.

I appreciate the opportunity to comment on behalf of the Tulalip Tribes. We look forward to joining in the effort to bring about the recovery of southern resident orcas. We see and hear *qʷəlʔqaləxič* asking for our help on the waters today. We must show them the respect they deserve and look after them as they have done so long for us. They are our family and our friends.

Thank you,

Stanley G. Jones, Sr.
Chairman

Subject: Proposed Recovery Plan for Southern Resident Killer Whales
From: 5 Star Charters <orcas@5starwhales.com>
Date: Mon, 26 Feb 2007 17:08:34 -0800
To: Orca.Plan@noaa.gov

Date: February 26, 2007
To: NOAA

Subject: Proposed Recovery Plan for Southern Resident Killer Whales

From: James (Jim) Dale,
General Manager,
Five Star Whale Watching [Est. 1985]
706 Douglas Street, Victoria, B.C., V8W 3M6
Tel #(250) 388-7223 Fax #(250) 388-5474
Toll-free 1(800) 634-9617
orcas@5starwhales.com
www.5starwhales.com

General comment:

~The plan covers most areas of concern, usually in a general way, allowing further refinements as more information becomes available.

Habitat Use

~Include Pacific Coast to central California & related salmon runs as Critical Habitat - winter food sources/habitat.

~Address cross-border issues with BC - importance of Fraser River salmon to the So. Resident orcas.

~Include Hood Canal as critical habitat - chum runs could be important food source, may have been historic food source (compare to Dyes Inlet where the chum run provided food for SRC).

~Military Exclusionary Zones - the Admiralty Inlet region is very important habitat for SRC during fall/winter travels into Puget Sound. If the exclusionary zone is mandatory for military use, NMFS should work with the Navy to agree the military exclusionary zones exclude ONLY military activities from the Critical Habitat designation, not other federal activities (this could help protect SRC's from possible tidal energy project in Admiralty Inlet).

~Importance of Columbia/Snake River system & associated chinook runs to Southern Resident Killer Whales - re-writing of Columbia/Snake River System biological assessment, to include new information on removal of Snake River dams.

Fish

~If shoreline areas were included as Critical Habitat, it would give more strength to existing protective measures in place for endangered salmon runs, & some runs (such as fall chum) that are important

prey for SRC are not endangered therefore not under protection, so protecting all nearshore areas would help.

~Need for enforcement of existing regulations protecting nearshore habitat.

~Take hard look at harvest & make difficult choices. If we want salmon in our future, we need to decrease harvest levels, & set aside an allotment or quota of chinook for the orcas.

~Pacific Salmon Treaty - ask for inclusion of quota of Chinook for orcas, work with BC, Alaska, OR & CA to look at all runs important to SRC.

~Need to look at the timing & location of all salmon runs important for the SRC - which runs should be preserved/restored first as an important food source for SRC's at critical times of the year.

~Ban fish farms, or push for fish farms to be on land in tanks.

Toxins

~PBDE ban (considered).

~ Enforce existing regulations, increase fines for polluters (considered).

~Prioritize clean-ups based on location & damage to fish/orcas.

~Strengthen regulations on chemical use, ban the worst chemicals, stricter testing regulations for new chemicals before releasing them into the environment, including their interaction when mixed with other chemicals (partially included).

~Homeowner and business owner education/awareness campaign ex: Whale & Salmon friendly lawn/garden signs & info.

Education

~Add Orca Network to organizations currently providing education & awareness about the SRC. Orca Network provides current information through our whale sighting network & website on the travels & health of the SRC, up to date news, issues, events, research, & action items to help the SRC, educational events, ferry naturalist presentations, workshops, publications, & a network for discussion of issues about SRC & related topics.

~We need to change the way people think about orcas. Over the previous decades the public perception of the killer whale, now referred to as orcas, has changed considerably. In recent years scientific literature has reflected knowledge gained since field studies began in the early 1970's. However, the conventional understanding of orcas still does not tanke into account the species' observed cultural capabilities. Greater awareness of such highly evolved adaptations, without parallel except in humans according to some published authorities, could enhance public appreciation for orcas and help motivate greater efforts to protect their habitat.

~Campaign for homeowners to reduce toxic chemical use in home & garden

~Encourage approaching business owners, investors, and developers to provide background information for efforts to protect and restore watershed habitats.

Vessels

~Promote shore-based whale watching (add Orca Network to list of organizations that do this)

~Educate recreational boaters, sports fisher persons, & the maritime industry about be whale wise guidelines

~Through the Whale Sighting Network Orca Network educates boaters, increases awareness of the orcas, & creates a peer-pressure through the network that motivates boaters of all kinds to behave better around the whales - they know they are being watched & reported on. Including boaters in the Whale Sighting Network helps increase whale sighting reports, creates awareness & results in support & buy-in from the boating community to help the orcas & behave better around them.

~Orca Network encourages NOAA Fisheries to continue with the cooperative efforts with the Whale Watch Operators Association to refine Be Whale Wise Guidelines. We feel much has been done in the past few years on the part of Whale Watch operators to help create the guidelines, follow them, and continually evaluate them. We also believe a strong emphasis should be made by all Whale Watch companies to provide a good educational experience for their customers, including information about the decline of the Southern Resident population, the Orca Recovery Plan, & what citizens can do to help improve conditions for the orcas. We have been impressed with the efforts of many Whale Watch operators who provide quality education to their passengers, and most Whale Watch companies have purchased large quantities of Orca Network's Orcas in Our Midst booklet to make available for their passengers. Through their efforts hundreds of thousands of people can be taught about the orcas and how we all need to work together to save them.

Noise

~Encourage use of bio-diesel and electric for all kinds of boats/vessels, as well as quieter engine technology

~Navy Sonar - include continental shelf waters for protection from sonar use; encourage mitigation of potential injurious effects; support consideration of international accords to eliminate need for active sonar sweeps (partially included).

~Seismic Airguns, off-shore exploration along Pacific coast - upcoming tests in BC (included).

Climate Change

~Study & model effects of climate change & ocean warming on SRC, their prey & habitat, and research mitigation methods (included).

Oil Spills

~Support more effective oil spill prevention such as year around stationing of rescue tug at Neah Bay, tug escorts from entrance of Strait of Juan de Fuca, containment preparedness at loading docks, etc (included).

Thank you for your efforts to date.

This is not the time to lose courage, but the time to redouble our collective effort to insure recovery of the Southern Resident Killer Whales.

Sincerely,

James (Jim) Dale,
General Manager,

Five Star Whale Watching [Est. 1985]
706 Douglas Street, Victoria, B.C., V8W 3M6
Tel #(250) 388-7223 Fax #(250) 388-5474
Toll-free 1(800) 634-9617
orcas@5starwhales.com
www.5starwhales.com

Subject: SKWR letter
From: "whales@eaglewingtours.com" <whales@eaglewingtours.com>
Date: Tue, 27 Feb 2007 16:18:16 -0500
To: Orca.Plan@noaa.gov

February 27, 2007

To Whom It May Concern:

Thank you for providing the opportunity for input on the Proposed Recovery Plan for Southern Residents prepared by the National Marine Fisheries Service Northwest Office.

The Whale Watch Operators Association Northwest is committed to the conservation of the Southern Resident Killer Whales. We applaud the US Governments' attention to both the conservation of these killer whales, and of their prey, the salmon. We believe that efforts directed at the long-term stability of salmon populations and their habitats in the Pacific Northwest would significantly contribute to the conservation of the endangered killer whales. This could mean significant changes to salmon fishing quotas within all sectors and enormous challenges are certain if salmon fishing is to be reduced or in some areas included under a killer whale conservation moratorium on salmon fishing.

However, the equation seems simple as too few fish, likely means too few whales.

In order to monitor changes in the population, we need dedicated funds for the Center for Whale Research to continue their photo-identification, population demographics and winter distribution research. Funds also need to be dedicated for groups like the Orca Network who are already engaging the public in non-invasive tracking of killer whales while educating participants. These data, though not systematically collected, still assist in understanding the habitat use and movements of particular pods of whales. This will certainly contribute to any critical or important habitat designations.

We believe is imperative to understand the habitats used by Southern Resident Killer Whales during the winter months, to fully grasp the threats to their survival they face while not in inland waters. It seems reasonable to think that the effective designation of critical habitat requires knowing the relative use/importance of different areas used throughout the year, in order to be biologically and ecologically complete.

Additionally, any exclusions or limitations that result in regard to human activity within critical habitat must apply to all sectors including the Navy. Efficacy will be questionable if applicability is not equal. Further to this, including shore areas that may affect any salmon runs seems appropriate for a complete critical habitat designation.

Furthermore, resources need to be directed at reducing the toxic loading of our coastal ecosystems. Removal of toxic products needs to be a two-fold effort aimed at reducing both the toxic levels input into the local environment, as well as removal of those already in the system. Members of the Whale Watch Operators Association Northwest have the unique opportunity to act as floating educational facilities wherein the audience is largely already environmentally minded.

It is known that PBDE (polybrominated diphenyl ethers) are harmful to the environment, and they should be banned. These and other such toxic chemicals have no place in our world; they are dangerous to whales, humans and potentially all other life on earth.

Perhaps a good use of public funds is public education programs aimed at reducing the individual toxic footprint of Pacific Northwest residents. It is imperative everyone become educated on the products they use in their homes and cars, and the potential effects to their families and the environment - whales included. Members of the Whale Watch Operators Association Northwest would be pleased to be a part of the educational and public outreach required to initiate this process.

In regard to measures aimed at vessel traffic, we are firm supporters of the Be Whale Wise initiative. We believe that the efforts required to educate recreational boaters needs to be enhanced. Continued monitoring of vessel numbers and behaviour in proximity to killer whales is a vital component to understanding the whales' local environment.

The Whale Watch Operators Association Northwest would like to see continued support of the scientific research that has been initiated to understand the seasonal acoustic changes in the ocean. This includes answering questions regarding engine noise levels as related to distance to whales, weather conditions, behaviour of the vessel, type of vessel etc in the areas where whale watching occurs. A complete study should include all vessel traffic types in the area, not just whale watching boats.

Further to the noise issue, there should be no testing of naval sonar in killer whale habitat or in areas when salmon are migrating. The effect of this type of pollution to southern resident killer whales was noted in Haro Strait, with the USS Shoup. Further evidence of the disruptive and potentially damaging effects of this human activity are not required.

Education of sport fish operators is also crucial as this is the sector of the maritime community most likely to directly overlap in distribution with foraging resident killer whales. In many cases, it has been observed that the whales travel through groups of vessels actively engaged in fishing activities. Dire consequences may result if depredation occurred that included ingestion of the hook. These vessels also produce noise and have propellers just like any other, and the 100-yard minimum distance should apply across all sectors equally.

The Whale Watch Operators Association Northwest is currently developing a protocol to address commercial operators whose actions do not reflect the spirit of Be Whale Wise or our own dynamic operating guidelines. Our goal is to further improve communication between members and monitoring groups, and set the precedent for standards of ethical whale watching. The monitoring and education outreach groups are crucial for whale conservation with our environment in its current state. Please ensure dedicated funding is available to allow these activities to continue.

Finally, in the face of global warming, large scale models need to be developed that takes into account the possible effects to local salmon populations with increased ocean temperatures. A forecast of the potential future quality of current habitats needs to be assessed. In addition, this may provide insight into habitats that may become important in the future, and if so, it seems like a positive strategy to initiate conservation measures in those regions now.

Thank you very much for the opportunity to comment on the Proposed Recovery Plan for Southern Residents. We look forward to the positive steps taken to best ensure the long-term survival of the iconic resident killer whales.

Sincerely,

Brett Soberg
Eaglewing Tours Ltd
Whale Watch Operators Association Northwest

VANCOUVER
WHALE WATCH

February 27, 2007

Lynne Barre
NOAA Fisheries, Northwest Region
7600 Sand Point Way NE
Seattle, WA 98115

Dear Ms. Barre,

As the owner of Vancouver Whale Watch and a concerned citizen I am taking this opportunity to make a few comments on the Proposed Recovery Plan for Southern Resident Killer Whales.

I would like to compliment you on producing this excellent document. It is the most comprehensive treatise put together on our SRKW to date. I have made it a must read for all my staff.

My comments focus mainly on the issues surrounding the potential threat of vessel effects. I think, however that the other threats, prey availability, environmental contaminants, oil spills and disease have had more influence on the slow recovery of the SRKW.

My company is located on the Fraser River in the fishing village of Steveston, just 30 minutes from downtown Vancouver. We are going into our ninth year of whale watching and in the summer we employ about 30 people. All of our marine mammal viewing trips are managed by a team made up of a captain and a naturalist. We take this team approach as our naturalists, most of whom have university degrees in marine biology, and our captains, who have read and signed off on our whale watching guidelines are both vital links in our approach to viewing marine mammals. The concern for the well being of the SRKW is always our main focus. Our trips are usually 4-5 hours long and the time spent in the vicinity of whales averages about 40 minutes. The rest of the time we are travelling through the Strait of Georgia and observing other marine mammals as well as examining other aspects of our eco-system. So you can see that we call ourselves whale watchers, but really only spend a limited time with the whales.

When potential problems arise, the organization to which most whale watching companies belong, the Whale Watchers Operators Association North West (WWOANW), reacts quickly and responsibly. Several years ago, for example, "parking in the path of whales" was raised as an issue by several researchers and the WWOANW promptly rewrote its guidelines to stop the practice. We look at our vessels as floating classrooms where we have the opportunity to share our knowledge of eco-systems and explain to our passengers the importance of protecting the whales and the environment that sustains them. Most people in the industry share this perception of our work.

Suite 210 12240 Second Ave. Richmond, BC, V7E 3L8 Tel: 604-274-9565 Fax: 604-274-9575
info@vancouverwhalewatch.com

In your report you say that the potential impacts of whale watching on killer whales remain controversial and inadequately understood. Although numerous short-term behavioural responses to whale-watching vessels have been documented, no studies to date have demonstrated a long-term adverse effect from whale watching on the health of any killer whale population in the northeastern Pacific. Both resident populations have shown strong fidelity to their traditional summer ranges despite more than 25 years of whale-watching activity (as well as even longer periods of intense commercial fishing vessel activity).
The most watched pod (J-pod) has shown an overall increasing trend in numbers since the 1970s and is currently at its highest recorded number.

Our company does a lot of whale watching in the region of the southern Strait of Georgia This area has experienced 100 years of intense commercial fishing vessel activity. I have personally watched killer whales work around a fleet of 1500 gill-netters all of which had a net of 1\4 mile in length behind each vessel, the whales did not show any signs of stress.

Your recovery action indicates more research is needed in the area of effects of vessels on whales. Whale watchers are in total agreement and would be happy to assist in research programs as we have in the past. Unfortunately for us whale watching has become a very political issue and some individuals have chosen to blame commercial whale watchers for any loss of killer whales. We only ask that the people conducting this research do so without bias and work within the bounds of peer reviewed science.

I would like to see more acoustical studies done on the actual output of various types of whale watching vessels, the research done to date has been inconsistent in it's collection and evaluation regarding its effect on whales.

The Soundwatch Boater Education Program has been vital in the promotion of proper whale watching and should have permanent funding in place. Monitoring private and commercial whale watch operators and educating the private boaters about the "Be Whale Wise" guidelines are areas where funding should be increased.

The Centre for Whale Research has proven time and time again to be an important link in research and long-term ID monitoring of the SRKW and should also receive increased permanent funding. Without professional and accurate monitoring it will be impossible to make accurate assessments of recovery.

The Orca Network should also receive permanent funding. It acts as a conduit between the on-shore researchers and the public, the boating public, researchers and whale watching companies. Whale related information is constantly being reported and updated on their website. It is vital in the cross-border issues that strongly link the USA and Canada and the SRKW.

Since 1994 the Whale Watcher Operators Association North West has established itself as a model for other marine mammal watching groups worldwide in providing stringent and workable guidelines. The WWOANW has worked closely with NOAA, Washington State Fish and Wildlife, American and Canadian Coastguards and DFO to promote the beneficial aspects of whale watching, to educate people and to inspire the protection of killer whales and the environment.

Research and monitoring are the key components of a recovery plan and will make an adaptive management approach possible. We all recognize that recovery of the SRKW is a long-term cooperative effort that will slowly evolve as more is learned from research and monitoring. The commercial whale watching community is ready and anxious to get on with this project to protect and increase the numbers of our Southern Resident Killer Whales.

Sincerely,

Cedric Towers

President
Vancouver Whale Watch

Subject: Comments on Proposed Recovery Plan for Southern Residents
From: 5 Star Charters <orcas@5starwhales.com>
Date: Tue, 27 Feb 2007 14:34:44 -0800
To: Orca.Plan@noaa.gov

To: NOAA

Subject: Proposed Recovery Plan for Southern Resident Killer Whales

From: Eric Johnson,President, Five Star Charters Ltd.
706 Douglas Street, Victoria, B.C., V8W 3M6
Tel #(250) 388-7223 Fax #(250) 388-5474
Toll-free 1(800) 634-9617
orcas@5starwhales.com
www.5starwhales.com

To Whom It May Concern:

Thank you for providing the opportunity for input on the Proposed Recovery Plan for Southern Residents prepared by the National Marine Fisheries Service Northwest Office.

Five Star Charters Ltd. d/b/a "Five Star Whale Watching" is committed to the conservation of the Southern Resident Killer Whales. We applaud the US Government's attention to both the conservation of these killer whales, and of their prey, the salmon. We believe that efforts directed at the long-term stability of salmon populations and their habitats in the Pacific Northwest would significantly contribute to the conservation of the endangered killer whales. This could mean significant changes to salmon fishing quotas within all sectors and enormous challenges are certain if salmon fishing is to be reduced or in some areas included under a killer whale conservation moratorium on salmon fishing.

However, the equation seems simple as too few fish, likely means too few whales.

In order to monitor changes in the population, we need dedicated funds for the Center for Whale Research to continue their photo-identification, population demographics and winter distribution research. Funds also need to be dedicated for groups like the Orca Network who are already engaging the public in non-invasive tracking of killer whales while educating participants. These data, though not systematically collected, still assist in understanding the habitat use and movements of particular pods of whales. This will certainly contribute to any critical or important habitat designations.

We believe is imperative to understand the habitats used by Southern Resident Killer Whales during the winter months, to fully grasp the threats to their survival they face while not in inland waters. It seems reasonable to think that the effective designation of critical habitat requires knowing the relative use/importance of different areas used throughout the year, in order to be biologically and ecologically complete.

Additionally, any exclusions or limitations that result in regard to human activity within critical habitat must apply to all sectors including the Navy. Efficacy will be questionable if applicability is not

equal. Further to this, including shore areas that may affect any salmon runs seems appropriate for a complete critical habitat designation.

Furthermore, resources need to be directed at reducing the toxic loading of our coastal ecosystems. Removal of toxic products needs to be a two-fold effort aimed at reducing both the toxic levels input into the local environment, as well as removal of those already in the system. The boats of Five Star Whale Watching, as a member of the Whale Watch Operators Association Northwest, have the unique opportunity to act as floating educational facilities wherein the audience is largely already environmentally minded.

It is known that PBDE (polybrominated diphenyl ethers) are harmful to the environment, and they should be banned. These and other such toxic chemicals have no place in our world; they are dangerous to whales, humans and potentially all other life on earth.

Perhaps a good use of public funds is public education programs aimed at reducing the individual toxic footprint of Pacific Northwest residents. It is imperative everyone become educated on the products they use in their homes and cars, and the potential effects to their families and the environment – whales included. Five Star Whale Watching, in conjunction with our fellow Members of the Whale Watch Operators Association Northwest, would be pleased to be a part of the educational and public outreach required to initiate this process.

In regard to measures aimed at vessel traffic, we are firm supporters of the Be Whale Wise initiative. We believe that the efforts required to educate recreational boaters needs to be enhanced. Continued monitoring of vessel numbers and behaviour in proximity to killer whales is a vital component to understanding the whales' local environment.

Five Star Whale Watching would like to see continued support of the scientific research that has been initiated to understand the seasonal acoustic changes in the ocean. This includes answering questions regarding engine noise levels as related to distance to whales, weather conditions, behaviour of the vessel, type of vessel etc in the areas where whale watching occurs. A complete study should include all vessel traffic types in the area, not just whale watching boats.

Further to the noise issue, there should be no testing of naval sonar in killer whale habitat or in areas when salmon are migrating. The effect of this type of pollution to southern resident killer whales was noted in Haro Strait, with the USS Shoup. Further evidence of the disruptive and potentially damaging effects of this human activity are not required.

Education of sport fish operators is also crucial as this is the sector of the maritime community most likely to directly overlap in distribution with foraging resident killer whales. In many cases, it has been observed that the whales travel through groups of vessels actively engaged in fishing activities. Dire consequences may result if depredation occurred that included ingestion of the hook. These vessels also produce noise and have propellers just like any other, and the 100-yard minimum distance should apply across all sectors equally.

Five Star Whale Watching and other members of the Whale Watch Operators Association Northwest is currently developing a protocol to address commercial operators whose actions do not reflect the spirit of Be Whale Wise or our own dynamic operating guidelines. Our goal is to further improve communication between members and monitoring groups, and set the precedent for standards of ethical whale watching. The monitoring and education outreach groups are crucial for whale

conservation with our environment in its current state. Please ensure dedicated funding is available to allow these activities to continue.

Finally, in the face of global warming, large scale models need to be developed that takes into account the possible effects to local salmon populations with increased ocean temperatures. A forecast of the potential future quality of current habitats needs to be assessed. In addition, this may provide insight into habitats that may become important in the future, and if so, it seems like a positive strategy to initiate conservation measures in those regions now.

Thank you very much for the opportunity to comment on the Proposed Recovery Plan for Southern Residents. We look forward to the positive steps taken to best ensure the long-term survival of the iconic resident killer whales.

Sincerely,

Eric Johnson,
President,
Five Star Charters Ltd.

Subject: Comments for the Recovery Plan of the SRKW
From: San Juan Safaris <fun@sanjuansafaris.com>
Date: Mon, 26 Feb 2007 11:14:19 -0800
To: Orca.Plan@noaa.gov

Dear Lynn,

I have attached our ongoing, ever evolving position paper on the Southern Residents. It speaks mostly to issues relating to whale watching, but hopefully is of value regarding boat interaction in general. My comments in addition to that are:

I don't believe strong enough synergy exists in the recovery plan between orca and salmon recovery. Faster Chinook recovery will produce faster Orca recovery. I also don't believe we are making a strong statement to severely limit salmon harvest. I would like to see accelerated emphasis on river recovery and enhancement such as the Elwha project. I would also like to see near shore and off shore given critical habitat protection. I don't see leaching chemical clean up emphasized. I would like to see stronger support for developing permanent funding for Sound Watch run by The Whale Museum, which could help with monitoring and education. I believe that the Whale Watch Operators Association North West (WWOANW) needs to take a more assertive role in monitoring its own behavior. This may take the form of an "executive review committee", which works more closely with NMFS. In addition, the Center For Whale Research needs sustainable support to maintain and continue its critical ID monitoring research.

I believe NMFS efforts to protect the Chinook and Orca are wonderful and so much has gone into this effort. I am grateful and thankful for everyone's efforts to start this recovery.

Bill Wright

San Juan Safaris

San Juan Safaris

Whale Watching & Sea Kayaking

www.SanJuanSafaris.com - Fun@SanJuanSafaris.com

360.378.6545 -800.450.6858

Unlike a lot of businesses, the watchable wildlife/outdoor adventure/eco tourism industry often attracts mission driven, idealist, bright, energetic, wonderful human beings. Thankfully San Juan Safaris is blessed to have scores apply and at present, employs approximately thirty per season.

Our branding message and mission statement is "respectful interaction with wildlife packed with serious fun" and we try hard to live up to that standard.

Since our goal is to educate our guests on all aspects of the environment, I try to develop clear messages to the public and our staff so that they can make their decisions on joining us from written guidelines and policies. I see this as a way to insure our company's message is clear and transparent. The following is our position paper that we have developed for the up listing of the Southern Resident Killer Whales (SRKW). It has evolved over the last three years.

Position Paper

Thirty plus years ago, local San Juan Islanders tell that one could locate where the Orcas were from the sound of gun fire and seal bombs as the whales made their way along the west side of San Juan Island.

Most of you know that Orcas are remarkably loyal and bonded to their family groups. During those "uniformed years" our local pods were also pursued, captured and killed in an effort to display them in aquariums. The trauma and death toll for these mammals was devastating to their clans and many scientists think they still have not recovered from these attacks.

Newcomers to San Juan Island concerned about the Orca talk about boat traffic in the summer when they see twenty to thirty boats out on the west side. Thirty plus years ago, there were as many as 800 - 1000 boats on the water day and night. They all were trying to

catch salmon, with their engines and generators going and nets in the water. During the switch from night fishermen to day fisherman, there were up to 3000 boats on the west side. It was said that at night it looked like a "city on the water" All this commotion did not cause the orcas to go extinct, but surely, it must have been a challenge for them. However, wherever there was Chinook salmon, there were Orcas.

A myth that came out of that era was that there were "hundreds" of Orca whales. This most likely happened because individual whales were not identifiable. Some may have been counted twice or multiple times. They also could have been counting **transient Orca**, **off shore Orca** or **resident Orca**. It was not until the 70's, when the Orcas were identified individually, thanks to Dr. Micheal Bigg, Ken Balcomb, and Graeme Ellis that anyone knew for certain just how many **resident Orca whales** there were. This critical research must be sustainable funded and maintained.

Another perplexing research gap continues to this day that even now no one knows where these **resident Orcas** go or how they survive from late fall to spring and are sighted all the way to Monterey CA. How can we make any headway on recovery when we can't even track them for half of their lives?

We also have seen that pods being viewed the least are suffering the most decline. The state of Washington Department of Fish and Wildlife has this to say regarding the matter: From the WSDF Status of the Killer Whale " Further confounding the matter is the fact that the heaviest viewed pod (J) has shown an overall increasing trend in numbers since the 1970's, and is currently at its highest recorded number. In contrast, L-pod is considered the least viewed pod, but is the only one to undergo a substantial and continuing decline since 1996" (http://wdfw.wa.gov/wlm/diversity/soc/status/orcafinal).

In our polarized efforts to protect Orcas, common sense sometimes is ignored. We are spending real dollars to find out if Orcas swim more when they are near boats. That somehow this expenditure of energy would harm their ability to survive. Someone obviously has not told the orcas as they continually breach, tail lob, spy hop and race around sometimes all the way to Vancouver or the outside of Vancouver Island expending huge amounts of energy, regardless if boats are present.

It seems that our limited research dollars should be spent on **salmon recovery, oil spill prevention, tanker escorts, winter tracking, persistent chemical clean up, mid range sonar effects and stopping raw sewage from entering Orca waters**? Keeping focused on real issues helps set an agenda citizens can trust.

Unfortunately some groups promote their own agenda based on flawed information and science. When that occurs we all lose "environmental capital" This destroys the confidence of our citizens and weakens the environmental movement as a whole".

Many have asked how the up listing of the Southern Resident Killer Whales (SRKW) to

Endangered Status will affect the Whale Watch businesses. In its press release, the National Marine Fisheries Service (NMFS) did not emphasize interference from boats. I believe this is because more and more science is pointing towards the lack of prey (Chinook salmon) and the high concentrations of chemicals found in the Orca's body tissue. Second, many believe the SRKW reached endangered status because this small and genetically unique group of whales could be devastated by a single oil catastrophe.

Most whale watch operators feel the SRKW have a better chance of surviving by this up-listing effort. I also believe that as long as science makes the decisions, "not politics," that govern their recovery, our community and orca will benefit in the long run from the efforts made to protect them.

Most of you are aware that for many years, the Whale Watch Operators Association Northwest (WWOANW) has been sitting down with National Marine Fisheries Service, and prominent whale researchers to develop Best Practice Guidelines, which dictate our behavior around the whales. It is counterintuitive that any one deriving their livelihood from wildlife viewing would purposely harm the resource that keeps them in business. Over the past decade at these cooperative meetings, we have not received any indication that NMFS wished to decrease whale watching activity. Having knowledgeable operators on the water may even help the whales as it is well known that it is the whale watch operators who control the behavior of private boat owners on the water when enforcement and independent monitoring groups are not present.

The Whale Watch Operators Association North West has continued to work with government and non-government organizations, locally and nationally to spread the word of conservation through responsible environmental education. Our collective efforts have resulted in the creation of a voluntary "no go" Orca foraging zone on the west side of San Juan Island, cooperative monitoring efforts with Sound Watch, the development of "Be Whale Wise" brochure and its distribution, along with the continuously updating of Best Practice Guidelines as new science dictates. The WWOANW is also responsible for educating over 300,000 visitors annually on the regional eco-system, and wildlife conservation including killer whales. National Marine Fisheries Service (US) and Department of Fisheries and Oceans (Canada) have both praised our efforts and our pro-active efforts on the water.

While calculating the economic impact of thousands of whale watch visitors to a region is difficult, we do know that they contribute millions of dollars to this non-consumptive industry. The non-direct financial contributions are likely significantly higher, and are spread out over many economic sectors. There are few industries if any that can claim the positive economic impacts without a consumptive component. The watchable wildlife industry has its origins in modeling economic stability combined with ecological sustainability.

Regardless of positive efforts and government praise, sensationalism often sells newspapers, and you will read negative statements made by those who oppose boat-based whale watching. However, the truth has not changed and respected science has yet to show significant negative affects on whales from commercial whale watch vessels. The truth is most whale watching companies, ours included, shut down their engines completely

whenever whales are present. Even critics of whale watching concede the noise from whale watch vessels is insignificant when compared to tanker and ship traffic in Puget Sound and no one even mentions the huge amount of boat traffic that used to share the whales domain.

Another often-exaggerated claim by opponents to boat based whale watching is that the whales are pursued constantly on the water. The truth is that even at the peak of whale watch season, there are on average ten commercial whale watch operators in the vicinity of whales near Lime Kiln state park. Most of which operate their engines at less than 7 knots within ½ mile of the whales. Scientists say that at these ranges and speeds, the sound of the vessels make less noise than the ambient sound of the water itself. If you calculate a 3-4 hour whale watch tour could at most spend 30 minutes in the proximity of whales. Of those 30 minutes in the proximity of whales, very seldom are the engines even running. If the engines aren't running should that be considered being in proximity? If you consider 100 to 200 yards as in proximity of whales remember that you're often dealing with a 1000 foot water depth, surface time to breath, day and night, year round, stretched out over a 100 miles or more of daily habitat with three separate Orca pods. Is it possible that proximity is 1% of their life?

Let me be clear, when asked by scientists to adjust our guidelines to reflect new concerns, we change the guidelines to meet that need. We often make guideline adjustments independently. This just recently occurred when "parking in the path of whales" was examined. Since it may be possible that parking in the path of a whale may affect the whales breathing pattern, we agreed to slide to the side of the apparent path and view the whales from the side as they go past. This is an example of pro-active adjustment to new suggestions and science and displays our willingness to employ the precautionary principle of do no harm. I by no means wish to imply that things are always acceptable on the water at all times. We could all do better, but for the majority of the time respect for the Orca and peer pressure works.

At the recent International Marine Mammal Conference in San Diego, our guidelines were recognized as a good model from which other whale watching industries could learn. We will continue to work with both the National Marine Fisheries Service (NMFS) and the Canadian Department of Fisheries and Oceans (DFO) to assure we continue to be a model in the future. The Humane Society is supportive of whale watching, and believes that it is just one of many ways that the general public can save whales worldwide form continued decline. As quoted from their brochure *Save Whales Not Whaling* "go whale watching and experience for yourself the beauty and value of seeing whales in their own habitat".

It is my belief that most concerns for boat interaction could be greatly reduced by creating permanent and adequate funding allowing a minimum of two boats on the water each day when the orcas are present, for the very successful Sound Watch program run by The Whale Museum. Funding could be achieved through a public/private partnership combining county, state and federal funds with contributions from the whale watching industry. When

Sound Watch is present everyone has better manners around the whales and the biggest problem, "private boaters" are educated on the spot.

On a personal and very positive note I would like to conclude with some thoughts. In my life time of 60 plus years, I have had the good fortune to see a remarkable shift in human thinking towards wildlife. Efforts by conservation groups, TV series, environmental education school programs and watchable wildlife viewing by responsible operators world-wide have led us from a consumptive to a non-consumptive viewing majority. Whether it be a small bird in the forest, a whale breaching or thousands of migrating wildebeests in Africa, somehow for some reason a large group of us find joy in that experience. It is that joy that moves us all to care and protect our wildlife and the habitat that sustains them.

Bill Wright
San Juan Safaris

--

Colleen Johansen
Owner San Juan Safaris
Fun@SanJuanSafaris.com
www.SanJuanSafaris.com

whale watching position paperBW 2-21-07 11.33am.doc	**Content-Type:** application/msword **Content-Encoding:** base64

San Juan Safaris
Whale Watching & Sea Kayaking
www.SanJuanSafaris.com - Fun@SanJuanSafaris.com
360.378.6545 -800.450.6858

Unlike a lot of businesses, the watchable wildlife/outdoor adventure/eco tourism industry often attracts mission driven, idealist, bright, energetic, wonderful human beings. Thankfully San Juan Safaris is blessed to have scores apply and at present, employs approximately thirty per season.

Our branding message and mission statement is "respectful interaction with wildlife packed with serious fun" and we try hard to live up to that standard.

Since our goal is to educate our guests on all aspects of the environment, I try to develop clear messages to the public and our staff so that they can make their decisions on joining us from written guidelines and policies. I see this as a way to insure our company's message is clear and transparent. The following is our position paper that we have developed for the up listing of the Southern Resident Killer Whales (SRKW). It has evolved over the last three years.

Position Paper

Thirty plus years ago, local San Juan Islanders tell that one could locate where the Orcas were from the sound of gun fire and seal bombs as the whales made their way along the west side of San Juan Island.

Most of you know that Orcas are remarkably loyal and bonded to their family groups. During those "uniformed years" our local pods were also pursued, captured and killed in an effort to display them in aquariums. The trauma and death toll for these mammals was devastating to their clans and many scientists think they still have not recovered from these attacks.

Newcomers to San Juan Island concerned about the Orca talk about boat traffic in the summer when they see twenty to thirty boats out on the west side. Thirty plus years ago, there were as many as 800 - 1000 boats on the water day and night. They all were trying to catch salmon, with their engines and generators going and nets in the water. During the switch from night fishermen to day fisherman, there were up to 3000 boats on the west side. It was said that at night it looked like a "city on the water" All this commotion did not cause the orcas to go extinct, but surely, it must have been a challenge for them. However, wherever there was Chinook salmon, there were Orcas.

A myth that came out of that era was that there were "hundreds" of Orca whales. This most likely happened because individual whales were not identifiable. Some may have been counted twice or multiple times. They also could have been counting **transient Orca**, **off shore Orca** or **resident Orca**. It was not until the

70's, when the Orcas were identified individually, thanks to Dr. Micheal Bigg, Ken Balcomb, and Graeme Ellis that anyone knew for certain just how many **resident Orca whales** there were. This critical research must be sustainably funded and maintained.

Another perplexing research gap continues to this day that even now no one knows where these **resident Orcas** go or how they survive from late fall to spring and are sighted all the way to Monterey CA. How can we make any headway on recovery when we can't even track them for half of their lives?

We also have seen that pods being viewed the least are suffering the most decline. The state of Washington Department of Fish and Wildlife has this to say regarding the matter: From the WSDF Status of the Killer Whale " Further confounding the matter is the fact that the heaviest viewed pod (J) has shown an overall increasing trend in numbers since the 1970's, and is currently at its highest recorded number. In contrast, L-pod is considered the least viewed pod, but is the only one to undergo a substantial and continuing decline since 1996" (http://wdfw.wa.gov/wlm/diversity/soc/status/orcafinal).

In our polarized efforts to protect Orcas, common sense sometimes is ignored. We are spending real dollars to find out if Orcas swim more when they are near boats. That somehow this expenditure of energy would harm their ability to survive. Someone obviously has not told the orcas as they continually breach, tail lob, spy hop and race around sometimes all the way to Vancouver or the outside of Vancouver Island expending huge amounts of energy, regardless if boats are present.

It seems that our limited research dollars should be spent on **salmon recovery, oil spill prevention, tanker escorts, winter tracking, persistent chemical clean up, mid range sonar effects and stopping raw sewage from entering Orca waters**? Keeping focused on real issues helps set an agenda citizens can trust.

Unfortunately some groups promote their own agenda based on flawed information and science. When that occurs we all lose "environmental capital" This destroys the confidence of our citizens and weakens the environmental movement as a whole".

Many have asked how the up listing of the Southern Resident Killer Whales (SRKW) to Endangered Status will affect the Whale Watch businesses. In its press release, the National Marine Fisheries Service (NMFS) did not emphasize interference from boats. I believe this is because more and more science is pointing towards the lack of prey (Chinook salmon) and the high concentrations of chemicals found in the Orca's body tissue. Second, many believe the SRKW reached endangered status because this small and genetically unique group of whales could be devastated by a single oil catastrophe.

Most whale watch operators feel the SRKW have a better chance of surviving by

this up-listing effort. I also believe that as long as science makes the decisions, "not politics," that govern their recovery, our community and orca will benefit in the long run from the efforts made to protect them.

Most of you are aware that for many years, the Whale Watch Operators Association Northwest (WWOANW) has been sitting down with National Marine Fisheries Service, and prominent whale researchers to develop Best Practice Guidelines, which dictate our behavior around the whales. It is counterintuitive that any one deriving their livelihood from wildlife viewing would purposely harm the resource that keeps them in business. Over the past decade at these cooperative meetings, we have not received any indication that NMFS wished to decrease whale watching activity. Having knowledgeable operators on the water may even help the whales as it is well known that it is the whale watch operators who control the behavior of private boat owners on the water when enforcement and independent monitoring groups are not present.

The Whale Watch Operators Association North West has continued to work with government and non-government organizations, locally and nationally to spread the word of conservation through responsible environmental education. Our collective efforts have resulted in the creation of a voluntary "no go" Orca foraging zone on the west side of San Juan Island, cooperative monitoring efforts with Sound Watch, the development of "Be Whale Wise" brochure and its distribution, along with the continuously updating of Best Practice Guidelines as new science dictates. The WWOANW is also responsible for educating over 300,000 visitors annually on the regional eco-system, and wildlife conservation including killer whales. National Marine Fisheries Service (US) and Department of Fisheries and Oceans (Canada) have both praised our efforts and our pro-active efforts on the water.

While calculating the economic impact of thousands of whale watch visitors to a region is difficult, we do know that they contribute millions of dollars to this non-consumptive industry. The non-direct financial contributions are likely significantly higher, and are spread out over many economic sectors. There are few industries if any that can claim the positive economic impacts without a consumptive component. The watchable wildlife industry has its origins in modeling economic stability combined with ecological sustainability.

Regardless of positive efforts and government praise, sensationalism often sells newspapers, and you will read negative statements made by those who oppose boat-based whale watching. However, the truth has not changed and respected science has yet to show significant negative affects on whales from commercial whale watch vessels. The truth is most whale watching companies, ours included, shut down their engines completely whenever whales are present. Even critics of whale watching concede the noise from whale watch vessels is insignificant when compared to tanker and ship traffic in Puget Sound and no one even mentions the huge amount of boat traffic that used to share the whales domain.

Another often-exaggerated claim by opponents to boat based whale watching is

that the whales are pursued constantly on the water. The truth is that even at the peak of whale watch season, there are on average ten commercial whale watch operators in the vicinity of whales near Lime Kiln state park. Most of which operate their engines at less than 7 knots within ½ mile of the whales. Scientists say that at these ranges and speeds, the sound of the vessels make less noise than the ambient sound of the water itself. If you calculate a 3-4 hour whale watch tour could at most spend 30 minutes in the proximity of whales. Of those 30 minutes in the proximity of whales, very seldom are the engines even running. If the engines aren't running should that be considered being in proximity? If you consider 100 to 200 yards as in proximity of whales remember that you're often dealing with a 1000 foot water depth, surface time to breath, day and night, year round, stretched out over a 100 miles or more of daily habitat with three separate Orca pods. Is it possible that proximity is 1% of their life?

Let me be clear, when asked by scientists to adjust our guidelines to reflect new concerns, we change the guidelines to meet that need. We often make guideline adjustments independently. This just recently occurred when "parking in the path of whales" was examined. Since it may be possible that parking in the path of a whale may affect the whales breathing pattern, we agreed to slide to the side of the apparent path and view the whales from the side as they go past. This is an example of pro-active adjustment to new suggestions and science and displays our willingness to employ the precautionary principle of do no harm. I by no means wish to imply that things are always acceptable on the water at all times. We could all do better, but for the majority of the time respect for the Orca and peer pressure works.

At the recent International Marine Mammal Conference in San Diego, our guidelines were recognized as a good model from which other whale watching industries could learn. We will continue to work with both the National Marine Fisheries Service (NMFS) and the Canadian Department of Fisheries and Oceans (DFO) to assure we continue to be a model in the future. The Humane Society is supportive of whale watching, and believes that it is just one of many ways that the general public can save whales worldwide form continued decline. As quoted from their brochure *Save Whales Not Whaling* "go whale watching and experience for yourself the beauty and value of seeing whales in their own habitat".

It is my belief that most concerns for boat interaction could be greatly reduced by creating permanent and adequate funding allowing a minimum of two boats on the water each day when the orcas are present, for the very successful Sound Watch program run by The Whale Museum. Funding could be achieved through a public/private partnership combining county, state and federal funds with contributions from the whale watching industry. When Sound Watch is present everyone has better manners around the whales and the biggest problem, "private boaters" are educated on the spot.

On a personal and very positive note I would like to conclude with some thoughts. In my life time of 60 plus years, I have had the good fortune to see a remarkable shift in human thinking towards wildlife. Efforts by conservation groups, TV series, environmental education school programs and watchable wildlife viewing by responsible operators world-wide have led us from a consumptive to a non-consumptive viewing majority. Whether it be a small bird in the forest, a whale breaching or thousands of migrating wildebeasts in Africa, somehow for some reason a large group of us find joy in that experience. It is that joy that moves us all to care and protect our wildlife and the habitat that sustains them.

Bill Wright
San Juan Safaris

Subject: An additional comment from San Juan Safaris
From: San Juan Safaris <fun@sanjuansafaris.com>
Date: Tue, 27 Feb 2007 14:59:26 -0800
To: Orca.Plan@noaa.gov, fun@sanjuansafaris.com

Greetings again,
We realized that we failed to mention a very important organization in regards to the Orca Recovery Plan. Please add this to our previous comments. Our apologies for the ommission

The Orca Network should also receive permanent funding. It acts as a conduit between the on-shore researchers and the public, the boating public, researchers and whale watching companies. Whale related information is constantly being reported and updated on their website. It is vital in the cross-border issues that strongly link the USA and Canada and the SRKW.

--
Bill and Colleen

Colleen Johansen
Owner San Juan Safaris
Fun@SanJuanSafaris.com
www.SanJuanSafaris.com

SPRINGTIDE
VICTORIA WHALE WATCHING

February 27, 2007

Chief, Protected Resources Division
1201 NE Lloyd Boulevard
Suite 1100
Portland, OR 97232

Response to Federal Register [I.D. 110706B]:

Thank you for providing the opportunity for input on the Proposed Recovery Plan for Southern Residents prepared by the National Marine Fisheries Service Northwest Office.

Firstly, we would like to reiterate the Comments with Addendum made by the Whale Watch Operators Association Northwest (WWOANW) and please consider those Comments integral and part of our Comments. Here we will provide new and additional Comments.

1. Less prey equals fewer predators. This has shown to be true in almost all population studies done on most Mammals. There also seems to be a very high correlation with the population of the SRKW and the available prey. We need to maximize the amount of salmon and other fish available for feed, inside and outside these straights.

2. Everett, J-38, died prematurely due to a lowered immune system due to high levels of toxins – so high as a mater of fact that his carcass was considered hazardous waste by Canadian statute and required a special dumping location and procedure. How many other SRKW's are in the same condition? We need to eliminate these toxins from these waters, inside and outside these straights.

3. The deaths and disappearances (as we do not find most carcasses) of SRKW's almost always happen in the outside waters of the Pacific Ocean. We need to know what goes on there as the majority of their lives are spent there. We know nothing, or at best, very little. How can we make any decisions without this information? We need to research what happens the rest of the year when the SRKW's are in outside waters, where they are not watched. Perhaps this is the most critical habitat as this seems to be where and when (winters) most of the deaths are occurring.

4. Why is it that the whales which are watched the most (J-Pod), have the most robust and most stable population numbers? We need to research what happens the rest of the year when the SRKW's are in the critical outside waters, when they are not watched.

SPRINGTIDE VICTORIA WHALE WATCHING

Phone: 250-384-4444
Fax: 250-658-0779
Toll Free: 800-470-3474
Email: info@SpringtideCharters.com
Website: www.SpringtideCharters.com
Operations: 1207 Wharf Street Victoria BC V8W 1T9
Administration: 4336 Crownwood Lane Victoria BC V8X 5E4

5. Why is it that the whales which are watched the least (L-Pod), have the poorest and most unstable population numbers? We need to research what happens the rest of the year when the SRKW's are in the critical outside waters, when they are not watched.

6. The navy needs to not use sonar in these waters.

7. Are Fishermen and women (commercial and recreational) exempt from be-whale wise guidelines? Should they be? They need to comply. Any exclusions or limitations to human activity within critical habitat must apply to all sectors including the Navy. Efficacy will be questionable if applicability is not equal. Further to this, including shore areas that may affect any salmon runs seems appropriate for a complete critical habitat designation.

8. Reunite L-Pod and bring back Lolita. Give them the choice to keep the family unit together.

9. In order to monitor changes in the population, we need dedicated funds for the Center for Whale Research to continue their photo-identification, population demographics and winter distribution research. Funds also need to be dedicated for groups like the Orca Network who are already engaging the public in non-invasive tracking of killer whales while educating participants. These data, though not systematically collected, still assist in understanding the habitat use and movements of particular pods of whales. This will certainly contribute to any critical or important habitat designations.

10. We are in the process of developing an "Ethics of Whale Watching", an informative piece to provide the marketplace with guidance as to what constitutes ethical and legal whale watching and what does not. The marketplace needs to be educated as well. Perhaps we can work with NMFS on this. This will be rolled out by WWOA along with the new disciplinary committee.

11. We need assistance with dealing with operators who consistently push the envelope. We (WWOA) have started this process constructing our disciplinary protocol (through the tentatively entitled Industry Executive Review Committee). This is to be implemented in 2007, and WWOANW is seeking more formal communication links with NMFS and NOAA (and DFO) to report critical infractions by our members. Based on third party data, such letters will formally request modification of operating behaviors and their effectiveness is partially dependant on NMFS and NOAA interaction. The construction process of such protocol has already begun with NGO's, including Sound Watch.

12. Boaters need constant education because the majority are always new to the area and whale watching. Sound Watch needs more funding.

The educational and public outreach we deliver is very significant and far reaching, to all corners of the civilized globe. Our audience is captive and very large. We have initiated these processes as we have the unique opportunity to act as floating educational facilities wherein the audience is largely already environmentally minded.

In regard to measures aimed at vessel traffic, we are firm supporters of the Be Whale Wise initiative. We believe that the efforts required to educate recreational boaters need to be enhanced. Continued monitoring of vessel numbers and behavior in proximity to killer whales is a vital component to understanding the whales' local environment.

Captain Dan Kukat, BCom, CA, President

SPRINGTIDE VICTORIA WHALE WATCHING

Phone: 250-384-4444
Fax: 250-658-0779
Toll Free: 800-470-3474
Email: info@SpringtideCharters.com
Website: www.SpringtideCharters.com
Operations: 1207 Wharf Street Victoria BC V8W 1T9
Administration: 4336 Crownwood Lane Victoria BC V8X 5E4

GREAT PACIFIC ADVENTURES

CYCLE Treks

February 27, 2007

To Whom It May Concern:

Thank you for providing the opportunity for input on the Proposed Recovery Plan for Southern Residents prepared by the National Marine Fisheries Service Northwest Office.

Great Pacific Adventures is a locally owned and operated company that has been running whale watching tours from Victoria, BC since 1996. In the peak of our whale watching season we employ approximately 22 people; many of whom have been with the company since its inception. We employ an array of professionals including policemen, firemen, marine biologists and an internationally renowned pinniped specialist. All of our staff place extreme importance on the recovery plan for the Southern Resident Killer Whales.

Great Pacific Adventures applauds the US Governments' attention to both the conservation of these killer whales, and of their prey, the salmon. We believe that efforts directed at the long-term stability of salmon populations and their habitats in the Pacific Northwest would significantly contribute to the conservation of the endangered killer whales. This could mean significant changes to salmon fishing quotas within all sectors and enormous challenges are certain if salmon fishing is to be reduced or in some areas included under a killer whale conservation moratorium on salmon fishing.

However, the equation seems simple as too few fish, likely means too few whales.

In order to monitor changes in the population, we need dedicated funds for the Center for Whale Research to continue their photo-identification, population demographics and winter distribution research. Funds also need to be dedicated for groups like the Orca Network who are already engaging the public in non-invasive tracking of killer whales while educating participants. These data, though not systematically collected, still assist in understanding the habitat use and movements of particular pods of whales. This will certainly contribute to any critical or important habitat designations.

We believe it is imperative to understand the habitats used by Southern Resident Killer Whales during the winter months, to fully grasp the threats to their survival they face while not in inland waters. It seems reasonable to think that the effective designation of critical habitat requires knowing the relative use/importance of different areas used throughout the year, in order to be biologically and ecologically complete.

Great Pacific Adventures P.O. Box 8173 Victoria, British Columbia Canada V8W 3R8
Phone: 250-386-2277 Fax: 250-386-3370 Toll-Free: 1-877-733-6722
E-mail: whales@greatpacificadventures.com
Websites: www.greatpacificadventures.com www.cycletreks.com

Additionally, any exclusions or limitations that result in regard to human activity within critical habitat must apply to all sectors including the Navy. Efficacy will be questionable if applicability is not equal. Further to this, including shore areas that may affect any salmon runs seems appropriate for a complete critical habitat designation.

Furthermore, resources need to be directed at reducing the toxic loading of our coastal ecosystems. Removal of toxic products needs to be a two-fold effort aimed at reducing both the toxic levels input into the local environment, as well as removal of those already in the system.

It is known that PBDE (polybrominated diphenyl ethers) are harmful to the environment, and they should be banned. These and other such toxic chemicals have no place in our world; they are dangerous to whales, humans and potentially all other life on earth.

Perhaps a good use of public funds is public education programs aimed at reducing the individual toxic footprint of Pacific Northwest residents. It is imperative everyone become educated on the products they use in their homes and cars, and the potential effects to their families and the environment – whales included. The whale watching community has a unique opportunity to assist in this education process as we act as floating educational facilities wherein the audience is largely already environmentally minded.

In regard to measures aimed at vessel traffic, we are firm supporters of the Be Whale Wise initiative. We believe that the efforts required to educate recreational boaters needs to be enhanced. Continued monitoring of vessel numbers and behavior in proximity to killer whales is a vital component to understanding the whales' local environment.

Great Pacific Adventures would like to see continued support of the scientific research that has been initiated to understand the seasonal acoustic changes in the ocean. This includes answering questions regarding engine noise levels as related to distance to whales, weather conditions, behavior of the vessel, type of vessel etc in the areas where whale watching occurs. We firmly believe that a complete study should include all vessel traffic types in the area, not just whale watching boats.

Further to the noise issue, there should be no testing of naval sonar in killer whale habitat or in areas when salmon are migrating. The effect of this type of pollution to southern resident killer whales was noted in Haro Strait, with the USS Shoup. Further evidence of the disruptive and potentially damaging effects of this human activity are not required.

Great Pacific Adventures P.O. Box 8173 Victoria, British Columbia Canada V8W 3R8
Phone: 250-386-2277 Fax: 250-386-3370 Toll-Free: 1-877-733-6722
E-mail: whales@greatpacificadventures.com
Websites: www.greatpacificadventures.com www.cycletreks.com

Education of sport fish operators is also crucial as this is the sector of the maritime community most likely to directly overlap in distribution with foraging resident killer whales. In many cases, it has been observed that the whales travel through groups of vessels actively engaged in fishing activities. Dire consequences may result if depredation occurred that included ingestion of the hook. These vessels also produce noise and have propellers just like any other, and the 100-yard minimum distance should apply across all sectors equally.

The Whale Watch Operators Association Northwest is currently developing a protocol to address commercial operators whose actions do not reflect the spirit of Be Whale Wise or our own dynamic operating guidelines. Our goal is to further improve communication between members and monitoring groups, and set the precedent for standards of ethical whale watching. The monitoring and education outreach groups are crucial for whale conservation with our environment in its current state. Please ensure dedicated funding is available to allow these activities to continue.

Finally, in the face of global warming, large scale models need to be developed that takes into account the possible effects to local salmon populations with increased ocean temperatures. A forecast of the potential future quality of current habitats needs to be assessed. In addition, this may provide insight into habitats that may become important in the future, and if so, it seems like a positive strategy to initiate conservation measures in those regions now.

Thank you very much for the opportunity to comment on the Proposed Recovery Plan for Southern Residents. We look forward to the positive steps taken to best ensure the long-term survival of the iconic resident killer whales.

Sincerely,

Rod King
Vice President
Whale Watch Operators Association Northwest

Great Pacific Adventures P.O. Box 8173 Victoria, British Columbia Canada V8W 3R8
Phone: 250-386-2277 Fax: 250-386-3370 Toll-Free: 1-877-733-6722
E-mail: whales@greatpacificadventures.com
Websites:www.greatpacificadventures.com www.cycletreks.com

Subject: Comments on Orca Recovery from Jim Maya
From: james maya <captjim@interisland.net>
Date: Tue, 27 Feb 2007 17:53:24 -0800
To: Orca.Plan@noaa.gov

To Whom It May Concern:

After teaching public school for 35 years, for the last ten I have been a whale watch captain out of San Juan Island, WA. I've been a naturalist and environmentalist for most of my 67 years. My mother and grandparents instilled in me at an early age a love of nature and the wild. I consider it a great privilege and honor to be a whale watch captain. Though I could go quietly into full retirement, my love of wildlife and the sea keeps me out there.

All that being said, I am concerned about attitudes toward the whale watching fleet. Commercial whale watching is part of the solution, not the problem. Yes, we all want to make a living, and therefore there is a profit motive, but we also want to educate the public. This is similar to the thousands of public school teachers, who make a living by teaching. It's an honorable profession.

<>Most teacher could make more money in other endeavors. I feel the same applies to whale watch captains, naturalists and others in this profession. We do it because we love the animals and the sea. If I thought for a moment that my activities on the water, or those of my fellow captains, were in any way harming our SRKW's, I would quit the business. I know that the other captains feel the same.

That being said, these captains and naturalists have literally millions of hours observing our SRKWs. Many of us are trained in the natural sciences. We are intelligent. (You don't become a captain without passing rigorous tests.) We have read the dubious anti-whale watching research put forward by those "researchers" who come to the table with pre-conceived notions and bias. I have seen some of them intentionally conduct studies aimed at the whale watch fleet. I do not believe this is in the spirit of the scientific method.

The only time I have ever seen Orcas react negatively to boats was the day the USS Schoop came by the West Side of San Juan Is. The testing of its sonar was so loud that my passengers could hear the sonar above the water - with out a hydrophone! J Pod was frantic and behaved in a fashion I had never seen before or since! J Pod was hiding between the shore and the reef in front of the Center For Whale Research. They were behaving in an erratic fashion, and were observed not only by the whale watch boats but were filmed by the Center and Ken Balcomb. The whale watching fleet was sitting 1/4 mile off shore. The Navy blamed the whale watchers.

I and other captains and naturalists could go on with literally countless examples of Orcas showing their familiarity, their ease, their comfort, their curiosity and their obvious intelligence and awareness of the boats. I've seen them deal with commercial fishing nets, and overly enthusiastic recreational boaters. These are bright, adaptable animals who have survived the days when fisherman would shoot at them, when they had to breath the unfiltered fumes of thousands of commercial fishing boats, when large areas of their environment were polluted.

Today the whale watch fleet, according to NOAA and NMFS observers, acts in a respectful manner. We are part of the cure, not part of the problem. Excessive restrictions on the whale watching fleet

would keep us from educating, from helping create in the public an appreciation and wonder relative to the SRKWs and their environment.

I see bumper stickers that say, "Let's not love our Orcas to death!" No Orca was ever loved to death. They have been starved to death. They have been polluted to death. They have been captured and shot. They face sonar, raw sewage and toxic chemicals, not to mention the unknown dangers of the winter. They have not been loved to death.

What do I think can be done to help ensure the continued survival of the SRKWs?

-Reduce the pollution in their environment. (I don't mean to be a skeptic, but this means dealing with entities like businesses and cities and governmental agencies that have deep pockets.)

-Increase their dwindling source of food, salmon. (Again, this means dealing with entities like businesses and cities and governmental agencies that have deep pockets.)

-Continue and increase quality, peer reviewed, scientific research based on the scientific method to find out ...

A. Why J Pod, which gets the overwhelming amount of viewing time from boats, and is in the Salish Sea far more often, as compared to the Ls and Ks, is the healthiest pod

B. Where the SRKWs go in the winter, and what dangers do they face during that period of time

C. Find out why the SRKWs are so highly polluted and where the pollution comes from

D. Monitor noise from freighters and sonar

-Continue and increase monitoring by law enforcement boats around Orcas

-Encourage education in all forms

-Encourage whale watching in all its forms

-Support the Industry Review Committee concept

-Support the Center For Whale Research

Respectfully,

Capt. Jim Maya
Maya's West Side Whale Watch Charters
210 Madrona Dr.
Friday Harbor,
San Juan Island, Washington 98250
360-378-7996 Cell 360-622-6305
captjim@interisland.net
www.mayaswhalewatch.biz
Member.... Whale Museum

Whale Watch Operators Ass. Northwest
US Coast Guard License 784477

Subject: Comments
From: "Dale Martinis (Captain Hollywood)" <captainhollywood@hotmail.com>
Date: Tue, 27 Feb 2007 14:11:05 -0800
To: Orca.Plan@noaa.gov

A common sense recovery plan evolves enhancing food source for the Killer Whale

The only time there has been a dramatic SRKW population decline was when there were very poor salmon returns in the late 1990's and early 2000's

This decline was not caused by boat noise. Boat noise is a fact of life and has been in the Whales environment longer than the whale watch industry.

(Talk about noise) I operated a purse seine skiff for years along the west side of San Juan Island for hours upon hours in the 1970's. My Grandfather (since 1914), my uncles, my dad and many other relatives did also. There were 300 purse seine permits in the days that I was fishing commercially and 1000 gillnet permits.

The notion that the whale watching industry is harmful to the Southern resident killer whales is founded on emotion only and very little if any scientific proof.

The SRKW has no problem finding food when the food is there.

I am now in a "no-take" tourist industry that does more to bring awareness to the SRKW's environment than any other single source. And all while generating commerce and tax revenues not to mention spawning conversationalists

The money spent on regulating, formulating, policing and researching the Whale Watching industry would be far better spent on enhancing and protecting food source for the SRKW. (why does a tribal fisherman and some sportsmen keep all Chinook caught? Is this not food source for the endangered SRKW?)

A lot more common sense and a little less emotion will ensure the "realistic" OSP of 100 whales for the SRKW.

Common sense approaches to the real problems in the whales' environment are in the water where they live and can NOT be seen. Not on the surface where they spend so little time and CAN be seen with mixed emotions.

"Captain Hollywood" Dale Martinis
www.PrivateWhaleWatching.com
No Crowds..... Fast Boat
Always only your Private Party
.....only a short drive from Seattle, WA - USA
Toll Free 1-877-968-3633
local 425-319-9202 cell

WHALE WATCH OPERATORS Association Northwest

WWOANW

PO Box 2404
Friday Harbor, WA 98250-2404
USA

www.wwoanw.org

February 27, 2007

To Whom It May Concern:

Thank you for providing the opportunity for input on the Proposed Recovery Plan for Southern Residents prepared by the National Marine Fisheries Service Northwest Office.

The Whale Watch Operators Association Northwest is committed to the conservation of the Southern Resident Killer Whales. We applaud the US Governments' attention to both the conservation of these killer whales, and of their prey, the salmon. We believe that efforts directed at the long-term stability of salmon populations and their habitats in the Pacific Northwest would significantly contribute to the conservation of the endangered killer whales. This could mean significant changes to salmon fishing quotas within all sectors and enormous challenges are certain if salmon fishing is to be reduced or in some areas included under a killer whale conservation moratorium on salmon fishing.

However, the equation seems simple as too few fish, likely means too few whales.

In order to monitor changes in the population, we need dedicated funds for the Center for Whale Research to continue their photo-identification, population demographics and winter distribution research. Funds also need to be dedicated for groups like the Orca Network who are already engaging the public in non-invasive tracking of killer whales while educating participants. These data, though not systematically collected, still assist in understanding the habitat use and movements of particular pods of whales. This will certainly contribute to any critical or important habitat designations.

We believe is imperative to understand the habitats used by Southern Resident Killer Whales during the winter months, to fully grasp the threats to their survival they face while not in inland waters. It seems reasonable to think that the effective designation of critical habitat requires knowing the relative use/importance of different areas used throughout the year, in order to be biologically and ecologically complete.

Additionally, any exclusions or limitations that result in regard to human activity within critical habitat must apply to all sectors including the Navy. Efficacy will be questionable if applicability is not equal. Further to this, including shore areas that may affect any salmon runs seems appropriate for a complete critical habitat designation.

Furthermore, resources need to be directed at reducing the toxic loading of our coastal ecosystems. Removal of toxic products needs to be a two-fold effort aimed at reducing both the toxic levels input into the local environment, as well as removal of those already in the system. Members of the Whale Watch Operators Association Northwest have the

WHALE WATCH OPERATORS Association Northwest

WWOANW

PO Box 2404
Friday Harbor, WA 98250-2404
USA

www.wwoanw.org

unique opportunity to act as floating educational facilities wherein the audience is largely already environmentally minded.

It is known that PBDE (polybrominated diphenyl ethers) are harmful to the environment, and they should be banned. These and other such toxic chemicals have no place in our world; they are dangerous to whales, humans and potentially all other life on earth.

Perhaps a good use of public funds is public education programs aimed at reducing the individual toxic footprint of Pacific Northwest residents. It is imperative everyone become educated on the products they use in their homes and cars, and the potential effects to their families and the environment – whales included. Members of the Whale Watch Operators Association Northwest would be pleased to be a part of the educational and public outreach required to initiate this process.

In regard to measures aimed at vessel traffic, we are firm supporters of the Be Whale Wise initiative. We believe that the efforts required to educate recreational boaters needs to be enhanced. Continued monitoring of vessel numbers and behaviour in proximity to killer whales is a vital component to understanding the whales' local environment.

The Whale Watch Operators Association Northwest would like to see continued support of the scientific research that has been initiated to understand the seasonal acoustic changes in the ocean. This includes answering questions regarding engine noise levels as related to distance to whales, weather conditions, behaviour of the vessel, type of vessel etc in the areas where whale watching occurs. A complete study should include all vessel traffic types in the area, not just whale watching boats.

Further to the noise issue, there should be no testing of naval sonar in killer whale habitat or in areas when salmon are migrating. The effect of this type of pollution to southern resident killer whales was noted in Haro Strait, with the USS Shoup. Further evidence of the disruptive and potentially damaging effects of this human activity are not required.

Education of sport fish operators is also crucial as this is the sector of the maritime community most likely to directly overlap in distribution with foraging resident killer whales. In many cases, it has been observed that the whales travel through groups of vessels actively engaged in fishing activities. Dire consequences may result if depredation occurred that included ingestion of the hook. These vessels also produce noise and have propellers just like any other, and the 100-yard minimum distance should apply across all sectors equally.

The Whale Watch Operators Association Northwest is currently developing a protocol to address commercial operators whose actions do not reflect the spirit of Be Whale Wise or our own dynamic operating guidelines. Our goal is to further improve communication

WHALE WATCH OPERATORS Association Northwest

WWOANW

PO Box 2404
Friday Harbor, WA 98250-2404
USA

www.wwoanw.org

between members and monitoring groups, and set the precedent for standards of ethical whale watching. The monitoring and education outreach groups are crucial for whale conservation with our environment in its current state. Please ensure dedicated funding is available to allow these activities to continue.

Finally, in the face of global warming, large scale models need to be developed that takes into account the possible effects to local salmon populations with increased ocean temperatures. A forecast of the potential future quality of current habitats needs to be assessed. In addition, this may provide insight into habitats that may become important in the future, and if so, it seems like a positive strategy to initiate conservation measures in those regions now.

Thank you very much for the opportunity to comment on the Proposed Recovery Plan for Southern Residents. We look forward to the positive steps taken to best ensure the long-term survival of the iconic resident killer whales.

Sincerely,

Anna Hall
Executive Director
Whale Watch Operators Association Northwest

WHALE WATCH OPERATORS Association Northwest

WWOANW

PO Box 2404
Friday Harbor, WA 98250-2404
USA

www.wwoanw.org

February 27, 2007

To Whom It May Concern: **with ADDENDUM**

Thank you for providing the opportunity for input on the Proposed Recovery Plan for Southern Residents prepared by the National Marine Fisheries Service Northwest Office.

The Whale Watch Operators Association Northwest is committed to the conservation of the Southern Resident Killer Whales. We applaud the US Governments' attention to both the conservation of these killer whales, and of their prey, the salmon. We believe that efforts directed at the long-term stability of salmon populations and their habitats in the Pacific Northwest would significantly contribute to the conservation of the endangered killer whales. This could mean significant changes to salmon fishing quotas within all sectors and enormous challenges are certain if salmon fishing is to be reduced or in some areas included under a killer whale conservation moratorium on salmon fishing.

However, the equation seems simple as too few fish, likely means too few whales.

In order to monitor changes in the population, we need dedicated funds for the Center for Whale Research to continue their photo-identification, population demographics and winter distribution research. Funds also need to be dedicated for groups like the Orca Network who are already engaging the public in non-invasive tracking of killer whales while educating participants. These data, though not systematically collected, still assist in understanding the habitat use and movements of particular pods of whales. This will certainly contribute to any critical or important habitat designations.

We believe it is imperative to understand the habitats used by Southern Resident Killer Whales during the winter months, to fully grasp the threats to their survival they face while not in inland waters. It seems reasonable to think that the effective designation of critical habitat requires knowing the relative use/importance of different areas used throughout the year, in order to be biologically and ecologically complete.

Additionally, any exclusions or limitations that result in regard to human activity within critical habitat must apply to all sectors including the Navy. Efficacy will be questionable if applicability is not equal. Further to this, including shore areas that may affect any salmon runs seems appropriate for a complete critical habitat designation.

Furthermore, resources need to be directed at reducing the toxic loading of our coastal ecosystems. Removal of toxic products needs to be a two-fold effort aimed at reducing both the toxic levels input into the local environment, as well as removal of those already in the system.

WHALE WATCH OPERATORS Association Northwest

WWOANW

PO Box 2404
Friday Harbor, WA 98250-2404
USA

www.wwoanw.org

It is known that PBDE (polybrominated diphenyl ethers) are harmful to the environment, and they should be banned. These and other such toxic chemicals have no place in our world; they are dangerous to whales, humans and potentially all other life on earth.

Perhaps a good use of public funds is public education programs aimed at reducing the individual toxic footprint of Pacific Northwest residents. It is imperative everyone become educated on the products they use in their homes and cars, and the potential effects to their families and the environment – whales included.

Members of the Whale Watch Operators Association Northwest would be pleased to be a part of the educational and public outreach required to initiate these processes as we have the unique opportunity to act as floating educational facilities wherein the audience is largely already environmentally minded.

In regard to measures aimed at vessel traffic, we are firm supporters of the Be Whale Wise initiative. We believe that the efforts required to educate recreational boaters needs to be enhanced. Continued monitoring of vessel numbers and behavior in proximity to killer whales is a vital component to understanding the whales' local environment.

The Whale Watch Operators Association Northwest would like to see continued support of the scientific research that has been initiated to understand the seasonal acoustic changes in the ocean. This includes answering questions regarding engine noise levels as related to distance to whales, weather conditions, behavior of the vessel, type of vessel etc in the areas where whale watching occurs. A complete study should include all vessel traffic types in the area, not just whale watching boats.

Further to the noise issue, there should be no testing of naval sonar in killer whale habitat or in areas when salmon are migrating. The effect of this type of pollution to southern resident killer whales was noted in Haro Strait, with the USS Shoup. Further evidence of the disruptive and potentially damaging effects of this human activity are not required.

Education of sport fish operators is also crucial as this is the sector of the maritime community most likely to directly overlap in distribution with foraging resident killer whales. In many cases, it has been observed that the whales travel through groups of vessels actively engaged in fishing activities. Dire consequences may result if depredation occurred that included ingestion of the hook. These vessels also produce noise and have propellers just like any other, and the 100-yard minimum distance should apply across all sectors equally.

The Whale Watch Operators Association Northwest is currently developing a protocol to address commercial operators whose actions do not reflect the spirit of Be Whale Wise or our own dynamic operating guidelines. Our goal is to further improve communication

WHALE WATCH OPERATORS Association Northwest

WWOANW

PO Box 2404
Friday Harbor, WA 98250-2404
USA

www.wwoanw.org

between members and monitoring groups, and set the precedent for standards of ethical whale watching. The monitoring and education outreach groups are crucial for whale conservation with our environment in its current state. Please ensure dedicated funding is available to allow these activities to continue.

Finally, in the face of global warming, large scale models need to be developed that takes into account the possible effects to local salmon populations with increased ocean temperatures. A forecast of the potential future quality of current habitats needs to be assessed. In addition, this may provide insight into habitats that may become important in the future, and if so, it seems like a positive strategy to initiate conservation measures in those regions now.

Thank you very much for the opportunity to comment on the Proposed Recovery Plan for Southern Residents. We look forward to the positive steps taken to best ensure the long-term survival of the iconic resident killer whales.

Sincerely,

Anna Hall
Executive Director
Whale Watch Operators Association Northwest

ADDENDUM:

Further to our disciplinary review committee protocol, which is to be implemented in 2007, the WWOANW is seeking more formal communication links with NMFS and NOAA (and DFO) to report critical infractions by our members. Based on third party data, such letters will formally request modification of operating behaviors and their effectiveness is partially dependant on NMFS and NOAA interaction. The construction process of such protocol has already begun with NGO's, including Sound Watch. Additionally, it should be noted that our industry will not survive if vessels are 300 or 200 yards from the whales. The very important education element of our tours would be significantly compromised at those distances to the point where they would be ineffectual due to frustration, as the length of a football field already strains many passengers' patience. Enforcement of the existing 100 yard rule is the most productive step to create a safe buffer, and the new Protocol will assist greatly in this regard.

Dan Kukat
President and Chair
Whale Watch Operators Association Northwest

PRINCE of WHALES

812 Wharf Street
Victoria, British Columbia
V8W 1T3

T: 1-888-383-4884
F: 250-383-4882
E: info@princeofwhales.com

February 27, 2007

To Whom It May Concern:

Thank you for providing the opportunity for input on the Proposed Recovery Plan for Southern Residents prepared by the National Marine Fisheries Service Northwest Office.

Prince of Whales is committed to the conservation of the Southern Resident Killer Whales, and we are sincerely grateful that the US Government is turning its attention to both the killer whales, and their prey, the salmon.

At Prince of Whales, we believe that short-term efforts need to be directed at ensuring the long-term stability of salmon populations in the Pacific Northwest. This may include significant changes to salmon fishing quotas within all sectors and enormous challenges are certain if salmon fishing is to be reduced or in some areas included under a killer whale conservation moratorium on salmon fishing.

However, the equation seems simple as too few fish, likely means too few whales.

In order to monitor changes in the population, we need dedicated funds for the Center for Whale Research to continue their photo-identification, population demographics and winter distribution research.

Funds also need to be dedicated for groups like the Orca Network who are already engaging the public in non-invasive tracking of killer whales while educating participants. These data, though not systematically collected, still assist in understanding the habitat use and movements of particular pods of whales. This will certainly contribute to any critical or important habitat designations.

We believe it is imperative to understand the habitats used by Southern Resident Killer Whales during the winter months, to fully grasp the threats to their survival they face while not in inland waters. We are especially concerned about the winter habitat use as this is when it seems the animals disappear.

Furthermore, we would like to have the government devote resources to understanding why J-Pod, which spends more time in the vicinity of populated areas (and whale watching boats), has been doing better than K or L-Pods in terms of numbers lost.

PRINCE of WHALES

812 Wharf Street
Victoria, British Columbia
V8W 1T3

T: 1-888-383-4884
F: 250-383-4882
E: info@princeofwhales.com

We would like to emphasize that any proposed exclusions or limitations that result in regard to human activity within critical habitat must apply to all sectors including the Navy. Efficacy will be questionable if applicability is not equal.

Furthermore, resources need to be directed at reducing the toxic loading of our coastal ecosystems. Removal of toxic products needs to be a two-fold effort aimed at reducing both the toxic levels input into the local environment, as well as removal of those already in the system.

It is known that PBDE's (polybrominated diphenyl ethers) are harmful to the environment, and they should be banned. These and other such toxic chemicals have no place in our world; they are dangerous to whales, humans and potentially all other life on earth.

Perhaps a good use of public funds is public education programs aimed at reducing the individual toxic footprint of Pacific Northwest residents. It is imperative everyone become educated on the products they use in their homes and cars, and the potential effects to their families and the environment – whales included.

Staff at Prince of Whales would be pleased to be a part of the educational and public outreach required to initiate these processes.

Prince of Whales supports the Be Whale Wise initiative and believes that the efforts required to educate recreational boaters needs to be enhanced.

Everyone at Prince of Whales would like to see continued support of the scientific research that has been initiated to understand the seasonal acoustic changes in the ocean. This includes answering questions regarding engine noise levels as related to distance to whales, weather conditions, behaviour of the vessel, type of vessel etc in the areas where whale watching occurs. A complete study should include all vessel traffic types in the area, not just whale watching boats.

Further to the noise issue, there should be no testing of naval sonar in killer whale habitat or in areas when salmon are migrating. The effect of this type of pollution to southern resident killer whales was noted in Haro Strait, with the USS Shoup. Further evidence of the disruptive and potentially damaging effects of this human activity are not required.

Education of sport fish operators is also crucial as this is the sector of the maritime community most likely to directly overlap in distribution with foraging resident killer

PRINCE of WHALES

812 Wharf Street
Victoria, British Columbia
V8W 1T3

T: 1-888-383-4884
F: 250-383-4882
E: info@princeofwhales.com

whales. In many cases, it has been observed that the whales travel through groups of vessels actively engaged in fishing activities. Dire consequences may result if depredation occurred that included ingestion of the hook. These vessels also produce noise and have propellers just like any other, and the 100-yard minimum distance should apply across all sectors equally.

Finally, in the face of global warming, large scale models need to be developed that takes into account the possible effects to local salmon populations with increased ocean temperatures. A forecast of the potential future quality of current habitats needs to be assessed. In addition, this may provide insight into habitats that may become important in the future, and if so, it seems like a positive strategy to initiate conservation measures in those regions now.

Thank you very much for the opportunity to comment on the Proposed Recovery Plan for Southern Residents. We look forward to the positive steps taken to best ensure the long-term survival of the iconic resident killer whales.

Sincerely,

Anna Hall

Senior Naturalist
Prince of Whales Whale Watching

Subject: Comments
From: aggergaard <aggergaard@comcast.net>
Date: Tue, 27 Feb 2007 11:51:08 -0800
To: Orca.Plan@noaa.gov

Other comments to consider in addition to the above attachment:

1. It is imperative to conduct research in the most sound, reliable way possible. Only then can we make real conclusions as to the findings. This seems obvious but many conclusions have been drawn in the media using unsound data.
2. When the SRKW die it is most often over the winter. This is likely due to lower food sources compared to summer/fall but consider the possibility of the killing of orca by offshore commercial fishermen in order to protect their catch. Consider a reward system for those willing to expose perpetrators. Or at least a way for fishing crew members to anonymously report this type of activity. It is unknown if this actually occurs or how often but it would be wise to try and find out, given the small population of the SRKW.
3. Though the number of whale watching vessels on the US side is not very high, and in fact may be on the decline, have you considered permitting in order to keep the number of platforms from a substantial increase in future years? This may be a good consideration for the Canadian government as well.

Thank you for the opportunity to comment on the Orca Recovery Plan.

Sincerely,

Shane and Jennifer Aggergaard
Owners, Island Adventures, Inc.
1801 Commercial Ave.
Anacortes, WA 98221

SRKW Recovery Comments US (2).doc	**Content-Type:** application/msword **Content-Encoding:** base64

Subject: Recovery Plan for Southern Residents
From: "Adam Hellicar - adam@oceanexplorations.com" <hellicar@gmail.com>
Date: Tue, 27 Feb 2007 08:33:23 -0800
To: Orca.Plan@noaa.gov

February 27, 2007

To Whom It May Concern:

Thank you for providing the opportunity for input on the Proposed Recovery Plan for Southern Residents prepared by the National Marine Fisheries Service Northwest Office.

The Whale Watch Operators Association Northwest is committed to the conservation of the Southern Resident Killer Whales. We applaud the US Governments' attention to both the conservation of these killer whales, and of their prey, the salmon. We believe that efforts directed at the long-term stability of salmon populations and their habitats in the Pacific Northwest would significantly contribute to the conservation of the endangered killer whales. This could mean significant changes to salmon fishing quotas within all sectors and enormous challenges are certain if salmon fishing is to be reduced or in some areas included under a killer whale conservation moratorium on salmon fishing.

However, the equation seems simple as too few fish, likely means too few whales.

In order to monitor changes in the population, we need dedicated funds for the Center for Whale Research to continue their photo-identification, population demographics and winter distribution research. Funds also need to be dedicated for groups like the Orca Network who are already engaging the public in non-invasive tracking of killer whales while educating participants. These data, though not systematically collected, still assist in understanding the habitat use and movements of particular pods of whales. This will certainly contribute to any critical or important habitat designations.

We believe is imperative to understand the habitats used by Southern Resident Killer Whales during the winter months, to fully grasp the threats to their survival they face while not in inland waters. It seems reasonable to think that the effective designation of critical habitat requires knowing the relative use/importance of different areas used throughout the year, in order to be biologically and ecologically complete.

Additionally, any exclusions or limitations that result in regard to human activity within critical habitat must apply to all sectors including the Navy. Efficacy will be questionable if applicability is not equal. Further to this, including shore areas that may affect any salmon runs seems appropriate for a complete critical habitat designation.

Furthermore, resources need to be directed at reducing the toxic loading of our coastal ecosystems. Removal of toxic products needs to

be a two-fold effort aimed at reducing both the toxic levels input into the local environment, as well as removal of those already in the system. Members of the Whale Watch Operators Association Northwest have the unique opportunity to act as floating educational facilities wherein the audience is largely already environmentally minded.

It is known that PBDE (polybrominated diphenyl ethers) are harmful to the environment, and they should be banned. These and other such toxic chemicals have no place in our world; they are dangerous to whales, humans and potentially all other life on earth.

Perhaps a good use of public funds is public education programs aimed at reducing the individual toxic footprint of Pacific Northwest residents. It is imperative everyone become educated on the products they use in their homes and cars, and the potential effects to their families and the environment - whales included. Members of the Whale Watch Operators Association Northwest would be pleased to be a part of the educational and public outreach required to initiate this process.

In regard to measures aimed at vessel traffic, we are firm supporters of the Be Whale Wise initiative. We believe that the efforts required to educate recreational boaters needs to be enhanced. Continued monitoring of vessel numbers and behaviour in proximity to killer whales is a vital component to understanding the whales' local environment.

The Whale Watch Operators Association Northwest would like to see continued support of the scientific research that has been initiated to understand the seasonal acoustic changes in the ocean. This includes answering questions regarding engine noise levels as related to distance to whales, weather conditions, behaviour of the vessel, type of vessel etc in the areas where whale watching occurs. A complete study should include all vessel traffic types in the area, not just whale watching boats.

Further to the noise issue, there should be no testing of naval sonar in killer whale habitat or in areas when salmon are migrating. The effect of this type of pollution to southern resident killer whales was noted in Haro Strait, with the USS Shoup. Further evidence of the disruptive and potentially damaging effects of this human activity are not required.

Education of sport fish operators is also crucial as this is the sector of the maritime community most likely to directly overlap in distribution with foraging resident killer whales. In many cases, it has been observed that the whales travel through groups of vessels actively engaged in fishing activities. Dire consequences may result if depredation occurred that included ingestion of the hook. These vessels also produce noise and have propellers just like any other, and the 100-yard minimum distance should apply across all sectors equally.

The Whale Watch Operators Association Northwest is currently developing a protocol to address commercial operators whose actions do not reflect the spirit of Be Whale Wise or our own dynamic operating guidelines. Our goal is to further improve communication between members and monitoring groups, and set the precedent for standards of ethical whale watching. The monitoring and education outreach groups are crucial for whale conservation with our environment in its current state. Please ensure dedicated funding is available to allow these

activities to continue.

Finally, in the face of global warming, large scale models need to be developed that takes into account the possible effects to local salmon populations with increased ocean temperatures. A forecast of the potential future quality of current habitats needs to be assessed. In addition, this may provide insight into habitats that may become important in the future, and if so, it seems like a positive strategy to initiate conservation measures in those regions now.

Thank you very much for the opportunity to comment on the Proposed Recovery Plan for Southern Residents. We look forward to the positive steps taken to best ensure the long-term survival of the iconic resident killer whales.

Sincerely,

Adam Hellicar

President

Ocean Explorations

noaa letter.doc	**Content-Type:** application/msword **Content-Encoding:** base64

CLIPPER NAVIGATION, INC. ▪ 2701 ALASKAN WAY, PIER 69 ▪ SEATTLE, WA 98121
PHONE 206.443.2560 FAX 206.443.2583 WEBSITE: WWW.VICTORIACLIPPER.COM

February 26, 2007

Chief, Protected Resources Division
1201 NE Lloyd Boulevard
Suite 1100
Portland, OR 97232

VIA EMAIL orca.plan@noaa.gov

Re: Response to Federal Register [I.D. 110706B]

To Whom It May Concern:

Clipper Navigation Inc. (Clipper) of Seattle, Washington would like to enter the following comments to the Recovery Plan for the Southern Resident pods. Clipper commented extensively on the vessel and acoustical effects section of the draft conservation plan. As a member of the Whale Watch Operators Association of the Northwest (WWOANW), we are at work with other operators in becoming a self policing entity with the recovery of these animals being paramount.

To avoid being too repetitious, the following is a summary of the points made in our December 26, 2005 letter.

As a member of WWOANW, Clipper endorses the existing guidelines as a template for the behavior of vessels in the vicinity of the whales for any new regulation of this activity. The requirements to follow the guidelines should be expanded to non-commercial private vessels.

Changes in the regulation of the manner in which whale watching is conducted should proceed only after research moves beyond the model stage to actual data, and this should be conducted in an expeditious manner. Clipper will make its vessels available as research platforms within the regular conduct of our operations.

Clipper believes that a systematic and complete study of acoustic emissions of the local fleet is necessary. This should be simultaneous with a concerted attempt to determine the nature of noise which negatively affects the whales. There should be incentives for operators to take steps to reduce sound to avoid masking whale signals. After a certain period, restrictions could be made imperative.

Clipper believes that one of the most important elements in the effort to protect the local ecosystem is the development of the largest and most informed constituency possible. The most effective way to achieve this is direct experience with and education concerning the local wildlife and environment. Accurate scientific information can allow management of this activity with a minimum of detrimental effects.

CLIPPER NAVIGATION, INC. ▪ 2701 ALASKAN WAY, PIER 69 ▪ SEATTLE, WA 98121
PHONE 206.443.2560 FAX 206.443.2583 WEBSITE: WWW.VICTORIACLIPPER.COM

Clipper wants any regulatory scheme (if any is determined to be necessary), such as limited entry, vessel distances, licensing or other restrictions, to be based on the best science available to allow the traveling public to experience these magnificent creatures with minimum impact. We sincerely believe that this is possible, and NMFS should strive for a scheme which is enforceable. The most enforceable option which can accommodate the largest constituency would be the ideal solution.

We realize that other factors could be primary in bringing the population to a level that ESA protection is no longer necessary. While Clipper is not a scientific organization, we employ knowledgeable and degreed professionals to conduct our whale education program. We would, therefore, like to weigh-in on the other issues in the plan.

Critical Habitat:

1. Include Hood Canal, Central California and Fraser River salmon runs as critical to the southern residents.
2. Cross border cooperation is necessary.

Food Sources:

1. Enforce existing regulations concerning habitat.
2. Decrease harvest levels and give a quota to Southern Residents (SR).
3. Strengthen Pacific Salmon Treaty to protect runs critical to SR.
4. Prioritize protection of runs based on the needs of SR.

Toxics:

1. Strengthen and prioritize current regulations concerning use of chemicals.
2. Support PBDE ban.
3. Increase fines for polluters under current regulations.
4. Prioritize clean ups based on needs of SR.

Education:

1. More funding support for non-government organizations providing education and awareness about SR.
2. More support for use of organic methods of lawn/home care and local agriculture.
3. Provide information/promote restoration of critical watersheds.
4. Children's education to include the complex social interactions of the SR. The next generation may be our best bet at final success.

Spill Prevention:

1. Fund existing spill prevention programs with a zero spill goal.

Noise:

1. Limit use of Navy sonar and seismic testing n the continental shelf. Timing these activities is critical even if they are allowed by waiver.

CLIPPER NAVIGATION, INC. ▪ 2701 ALASKAN WAY, PIER 69 ▪ SEATTLE, WA 98121
PHONE 206.443.2560 FAX 206.443.2583 WEBSITE: WWW.VICTORIACLIPPER.COM

Reintroduce Lolita to L Pod:

1. Factors differ from the Keiko case which could make this a huge success. It would send a strong message to the general population as to the seriousness of NMFS in restoration of the SR.

Thank you for this chance to comment. We look forward to participating in the public review process for subsequent regulation.

Yours truly,

Darrell E. Bryan
Executive Vice President and General Manager
Clipper Navigation Inc.

DEB/mb-aa/0207-06

Whale Watching
Wildlife Cruises
Private Charters
Sea Kayak Tours
www.watchwhales.com
sanjuanex@watchwhales.com

Classic 65' Yacht, "Odyssey" *In the Sunny San Juan Islands!* San Juan Excursions, Inc.

February 27, 2007

Dear NOAA or NMFS Representative,

Thank you for providing the opportunity for input on the Proposed Recovery Plan for Southern Residents prepared by the National Marine Fisheries Service Northwest Office.

San Juan Excursions is committed to the conservation of the Southern Resident Killer Whales. We applaud the US Governments' attention to both the conservation of these killer whales, and of their prey, the salmon. We believe that efforts directed at the long-term stability of salmon populations and their habitats in the Pacific Northwest would significantly contribute to the conservation of the endangered killer whales. This could mean significant changes to salmon fishing quotas within all sectors and enormous challenges are certain if salmon fishing is to be reduced or in some areas included under a killer whale conservation moratorium on salmon fishing. However, the equation seems simple as too few fish, likely means too few whales.

In order to monitor changes in the population, we need dedicated funds for the Center for Whale Research to continue their photo-identification, population demographics and winter distribution research. Funds also need to be dedicated for groups like the Orca Network who are already engaging the public in non-invasive tracking of killer whales while educating participants. These data, though not systematically collected, still assist in understanding the habitat use and movements of particular pods of whales. This will certainly contribute to any critical or important habitat designations.

We believe it is imperative to understand the habitats used by Southern Resident Killer Whales during the winter months, to fully grasp the threats to their survival they face while not in inland waters. It seems reasonable to think that the effective designation of critical habitat requires knowing the relative use/importance of different areas used throughout the year, in order to be biologically and ecologically complete.

Additionally, any exclusions or limitations that result in regard to human activity within critical habitat must apply to all sectors including the Navy. Efficacy will be questionable if applicability is not equal. Further to this, including shore areas that may affect any salmon runs seems appropriate for a complete critical habitat designation.

Furthermore, resources need to be directed at reducing the toxic loading of our coastal ecosystems. Removal of toxic products needs to be a two-fold effort aimed at reducing both the toxic levels input into the local environment, as well as removal of those already in the system.

It is known that PBDE (polybrominated diphenyl ethers) are harmful to the environment, and they should be banned. These and other such toxic chemicals have no place in our world; they are dangerous to whales, humans and potentially all other life on earth.

Perhaps a good use of public funds is public education programs aimed at reducing the individual toxic footprint of Pacific Northwest residents. It is imperative everyone become educated on the products they use in their homes and cars, and the potential effects to their families and the environment – whales included.

We at San Juan Excursions would be pleased to continue to be a part of the educational and public outreach required to initiate these processes as we have always acted as a floating educational facility wherein the audience is largely already environmentally minded and eager to take our conservation-minded, printed handouts home.

In regard to measures aimed at vessel traffic, we are firm supporters of the Be Whale Wise initiative. We believe that the efforts required to educate recreational boaters needs to be enhanced. Continued monitoring of vessel numbers and behavior in proximity to killer whales is a vital component to understanding the whales' local environment.

San Juan Excursions would like to see continued support of the scientific research that has been initiated to understand the seasonal acoustic changes in the ocean. This includes answering questions regarding engine noise levels as related to distance to whales, weather conditions, behavior of the vessel, type of vessel etc in the areas where whale watching occurs. A complete study should include all vessel traffic types in the area, not just whale watching boats.

Further to the noise issue, there should be no testing of naval sonar in killer whale habitat or in areas when salmon are migrating. The effect of this type of pollution to southern resident killer whales was noted in Haro Strait, with the USS Shoup. Further evidence of the disruptive and potentially damaging effects of this human activity are not required.

Education of sport fish operators is also crucial as this is the sector of the maritime community most likely to directly overlap in distribution with foraging resident killer whales. In many cases, it has been observed that the whales travel through groups of vessels actively engaged in fishing activities. Dire consequences may result if depredation occurred that included ingestion of the hook. These vessels also produce noise and have propellers just like any other, and the 100-yard minimum distance should apply across all sectors equally.

We as a charter member of the Whale Watch Operators Association Northwest are supporting the development of a protocol to address commercial operators whose actions do not reflect the spirit of Be Whale Wise or our own dynamic operating guidelines. Our goal is to further improve communication between members and monitoring groups, and set the precedent for standards of ethical whale watching. The monitoring and education outreach groups are crucial for whale conservation with our environment in its current state. Please ensure dedicated funding is available to allow these activities to continue.

Finally, in the face of global warming, large scale models need to be developed that takes into account the possible effects to local salmon populations with increased ocean temperatures. A forecast of the potential future quality of current habitats needs to be assessed. In addition, this may provide insight into habitats that may become important in the future, and if so, it seems like a positive strategy to initiate conservation measures in those regions now.

Thank you very much for the opportunity to comment on the Proposed Recovery Plan for Southern Residents. We look forward to the positive steps taken to best ensure the long-term survival of our resident killer whales.

Roger J. Hoff, President

Roger J. Hoff

San Juan Excursions, Inc
PO Box 2508, #2 Spring St. Landing
Friday Harbor, WA 98250
Ph: 360-378-6636

Subject: COMMENTS ON ORCA PLAN
From: "Duffy, Bob" <BDUF461@ECY.WA.GOV>
Date: Fri, 1 Dec 2006 10:41:17 -0800
To: <orca.plan@noaa.gov>
CC: "Margaret Duncan" <MDuncan@sharedsalmonstrategy.org>

Within the past 12 months I have seen Orcas in Hood Canal.

A recent Seattle Times article stated, in part:

> Barre, however, said they can only protect habitat orcas are actually using at the time they are listed as endangered. Orcas hadn't been seen in Hood Canal for years, she said. And not enough is known about how orcas use the open ocean.

Based on my observation, Barre's reported statement is incorrect.

If Orcas are in fact using Hood Canal, and I know from observation that they are, and if only habitat that is in use is going to be protected, then obviously Hood Canal needs to be included as protected habitat used by Orcas.

Summary of my comment: Based on recent observation, Orcas use Hood Canal and Hood Canal should be included in habitat protected for Orcas. Make this protection happen.

Bob Duffy

Shorelands and Environmental Assistance Program
Department of Ecology, Southwest Regional Office
P.O. Box 47775, Olympia, WA 98504-7775
Work phone: (360) 407-0239; Fax: (360) 407-6305
Switchboard: (360) 407-6300; Email: bduf461@ecy.wa.gov
Cell phone: (360) 561-3929; Home phone: (360) 491-5372
Ecology web page: http://www.ecy.wa.gov/ecyhome.html
Supervisor: Paula Ehlers, (360) 407-0271
Section Secretary: Donna Nicholson, (360) 407-7058

Subject: publi comment on federal register of 11/29/06 vol 71 #229 pg 69101
From: Bk1492@aol.com
Date: Wed, 29 Nov 2006 09:10:23 EST
To: orca.plan@noaa.gov, comments@whitehouse.gov, vicepresident@whitehouse.gov
CC: foe@foe.org, contact2@harpseals.com, bluewater@bluewaternetwork.org

doc noaa id 110706b recover of southern resident killer whales - noa -

i would like a paper copy sent to me for further review. i would think time to comment should be extended.

i do not think the plan is complete enough or extensive enough in protection measures for this species, which faces extinction shortly.
b. sachau
15 elm st
florham park nj 07932

Subject: recovery for orcas
From: Mary Lou McVicker <eaglesnest2@mac.com>
Date: Wed, 29 Nov 2006 12:42:40 -0800
To: orca.plan@noaa.gov

It is my understanding that orcas can live to be 100 years old, and this makes them a good indicator for what is happening in our oceans. The fact that they are dying because of toxic pollution should be a tremendous wake-up call for us. We need to stop the sources of pollution for the sake of the entire biological food chain, because our abuse of our oceans and rivers endangers much more than just the orcas. We need tough rules and ways to monitor and punish those who break the rules. Don't just consider minimizing underwater noise and regulating whale-watching boats.. just DO IT. There should be absolutely no reason to allow offenders to continue to endanger our wildlife and waters, when following reasonable rules will ensure that these precious resources will be protected for future generations. Only in America do we allow the tail to wag the dog. It is up to knowledgeable authorities to decide what restrictions are necessary and see that the laws are enforced. You would think the fishing industry would applaud efforts to clean up our oceans. Many of us are restricting eating fish because of the mercury, PCB, and other toxins that are now found in fish due to human-caused pollution. This is not just about the orcas!

Subject: Puget Sound Killer Whale Proposed ESA Recovery Plan
From: "R. Cuplin" <rcuplin@comcast.net>
Date: Wed, 29 Nov 2006 15:52:48 -0800
To: orca.plan@noaa.gov

Attn: Regional Administrator: Bob Lohn

The Puget Sound Killer Whale Proposed ESA Recovery Plan, such as it is, is better than nothing. Developers are naturally opposed to anything that slows the flow of cash to their coffers. They will attempt to justify short-sighted development with the promise of jobs, commerce, and tax revenue. These are good things, but we aren't talking about an either/or situation. People will always find ways to create commerce, which creates jobs, and our government will always find a way to tax it.

Whales, on the other hand, can be eradicated, and permanently, by our short-sighted activities. Whales don't hire lobbyists, lawyers, or other advocates. They don't buy anything. They don't work for anyone. We can't eat them. This makes them uninteresting and useless to developers. Orcas are part of a complex ecosystem that we don't fully understand since it is largely out of our sight. Although we cannot exist without having an effect on our environment, we can strive to minimize our effect, and at the very least we must prevent ourselves from erasing some part of it.

Sincerely,

RLC

Steve & Valerie McElfresh

From: "Steve & Valerie McElfresh" <kilfish1@whidbey.com>
To: "Orca Plan" <orcaplan@noaa.gov>
Sent: Sunday, January 21, 2007 12:28 PM
Subject: Orca Plan Comments

As a former fishing guide and someone who has spent a lot of time on the waters of Washington, BC and Alaska in the last 25+ years, I feel that I am somewhat qualified to comment. The only way to rescue the southern orca population from extinction is to greatly limit the toxins going into their saltwater enviroment, increase the number of chinook salmon available for their food and reduce the harrasment from vessels.
As far as reducing toxins entering the saltwater, every municipality from Olympia to Vancouver BC needs to treat all storm water before it enters the saltwater. Also all sewage treatment facilities need to have secondary treatment installed if they do not already have it.
To increase the chinook salmon population Washinton state needs to increase hatchery production and reinstate the net pen projects that it eliminated several years ago. If done properly through fisheries enhancement means such as wild fish supplementation and salt water net pen projects any ill effects on ESA listed wild fish stocks can be reduced.
Vessel harrasment of orcas from engine noise and disruption of feeding habits can be reduced by cutting back the number of vessels involved in the the whale watching business. These vessels are noisy and leapfrog ahead of feeding whales to give their customers a better view. I have seen as many as 70 vessels on the west side of San Juan island during the summer chasing whales when these animals are feeding on salmon in the area. Vessel distance regulations need to be enforced for the boating public as well.
Thank you for allowing public comment on such a vital issue such as this.

Steve McElfresh
PO Box 291 Greenbank WA 98253
360-678-1011

Subject: Comments on Orca Recovery Plan
From: Steve Simpson <captsosimpson@mac.com>
Date: Mon, 26 Feb 2007 22:28:09 -0800
To: Orca.Plan@noaa.gov

26 February 2007

TO: Lynne Barre and Brent Norberg
NOAA/NMFS Northwest Region
7600 Sand Point Way NE
Seattle, WA 98115

Dear Ms. Barre and Mr. Norberg:

I appreciate the opportunity to comment on the proposed recovery program for the Southern Resident Killer Whales. My livelihood depends on a healthy marine environment and I have an active interest in the survival and thriving of Orca and all other marine species. And of course, it is more than just my livelihood, it is part of my life. Currently I am the president of the Islands Oil Spill Association Board of Directors. I lived aboard a boat for ten years and have been a recreational boater for over 40 years. I've been the Port Director for the Port of Friday Harbor for over 20 years. My wife and I operated a small wildlife tour business from Friday Harbor for a short time. However, I am not speaking for any of the groups I am associated with, but my experiences with these organizations and activities have given me the opportunity to participate in a wide range of experiences in the area considered in the plan.

General Comments

The ability to take meaningful action in the marine environment has always suffered from the great many overlapping agencies that are responsible for different parts or aspects of the marine environment. For any plan to succeed there has to be a single agency that has both the responsibility and the authority for the implementation of the plan. My experience with interagency cooperation has not been encouraging because of turf protection and lack of adequate resources in county, state and federal agencies to take on new tasks.

I believe that salmon recovery is the key to recovery to Orca populations because that addresses almost all of the issues that appear to affect the orca, especially their food. The fate of Orcas linked to the availability of salmon, especially Chinook.

The proposed plan for funding appears to place a much higher emphasis on research than on prevention and enforcement efforts. One of the failings of the existing efforts is the inability of supporting efforts leading toward meaningful action. When faced with politically difficult choices it is far easier to turn efforts toward research than dealing with the social conflicts that come from trying to effect change. We understand enough about salmon and orca that we understand some actions that must be taken to protect their habitats. Perhaps expending an equal amount on both research and action would be reasonable.

I've read the comments from the Whale Museum and support their statement. And rather than repeat what they've written the following highlights ideas from my own experience.

Revisit the Marine Sanctuary

The Friday Harbor Port Commission opposed the creation of a marine sanctuary when it was first proposed. Since that time our understanding of our marine environment has expanded and we've determined that some species of salmon and southern resident orca are threatened. I believe that the politics on the Friday Harbor Port Commission have changed in response to our new understanding as well as I believe the politics have changed among other local and regional political bodies. I believe that boaters and landholders will be more likely to change their attitudes towards the use of this region's marine environment if this environment is given the "sanctuary" designation. The effectiveness of rules, directives and guidelines aimed toward guiding human activity can only be as effective as people's belief in the ideas behind them. Just as people set a different standard for their activity in National Parks, people expect different standards in sanctuaries and act accordingly.

Oil Spills

Islands Oil Spill Association (IOSA) is the only agency that provide an effective rapid response to the kinds of oil spills that are typical in the San Juan Islands area. The association receives funding from memberships, donations and for conducting training programs. IOSA can fund its operations at a barely adequate level, (supplimented by personal dedication to protecting our marine environment) but lacks funding for the equipment it needs to get around the San Juan Islands. It badly needs modern boats and modern specialized equipment that is standard in the oil spill industry. IOSA is unique because it is a volunteer oil spill organization. Because it is unique there is no mechanism available to assist it, nor is there a model to follow to insure its capability to respond to oil spills quickly in a complicated disbursed rural area.

Commercial and recreational vessels are not designed to contain fuel that is spilled when boats are fueled. Fuel spills are endemic at most fuel piers despite the efforts of boaters to be careful during fueling. A fix for this problem is far easier to craft when a boat is being constructed than trying to dealing with a badly engineered vessel component after it is launched. New boats should be required to have positive spill prevention built into them. Marine fueling stations should be required to provide absorbent pads and containers for fuel tank vents during fueling.

Education and Enforcement

Soundwatch is in a similar situation as IOSA. It provides an effective effort to protect orca and other marine mammals by providing information and monitoring "whalewatch" activities. However it relies too heavily on the dedication and of a single individual and on make-do equipment. It is not adequately funded, is short on equipment, especially boats; and short on resources to put people on the water for all of the times people are engaged in whale watch activities. At a minimum, Soundwatch should have a second boat in the San Juans and have boats that are built specifically for keeping people on the water for extended periods of time.

Water Quality

Weed and feed fertilizers, persistent herbicides and insecticides should be eliminated or greatly controlled in the Puget Sound and Salish Sea watersheds. The neighbor next to us as property that is

partially in a wetland that drains to Griffin Bay. While we maintain an unmowed 200 foot buffer, our neighbor uses weed and feed and has an immaculate trimmed lawn. This is a common practice for owners of residential property next to shorelines, streams and wetlands.

Septic tanks along shorelines and near watercourses should be periodically inspected rather than use them until after they fail (the common practice of which I'm aware).

Only a handful of the commercial marinas in San Juan County have holding tank pump-out facilities. All marinas or private slips that are rented or used by live-aboard boats should be required to have working pump-out systems. Marinas that have pump-out facilities are at an economic disadvantage by their having to assume the expense of installing and maintaining the systems so there is a tendency to avoid making the expense.

There should be a requirement for all marinas to have a method of pumping and containing contaminated bilge waste. Marinas should also have convenient ways of disposing of hazardous chemicals used by commercial and recreational vessels including antifreeze, used oil, old gasoline and solvents. Unless there is a convenient way for vessel owners to dispose of these materials it is likely that these substances will end up in the marine environment or in the shoreline area.

Thank you for your consideration. I am available if you have questions or would like information on issues with which I have experience.

Steve Simpson
P.O. Box 171
Friday Harbor, WA 98250
captsosimpson@mac.com
360-378-3313

Subject: Comments on The Recovery Plan for Southern Resident Killer Whales
From: Nancy Simpson <frogfarm@centurytel.net>
Date: Tue, 27 Feb 2007 15:41:02 -0800
To: Orca.Plan@noaa.gov

Dear Lynn and Brent,

Attached are a few comments about The Recovery Plan.

Thanks for the opportunity to submit comments, which means a good long look at the work you have done. I look forward to the next step as we all move closer to doing what humans can do to fix up what humans have done (are doing).

Respectfully,

Nan Simpson
Friday Harbor

Comments SRKW Plan.doc	**Content-Type:** application/octet-stream **Content-Encoding:** base64

February 26, 2007

Lynne Barre and Brent Norberg
NOAA/NMFS Northwest Region
7600 Sand Point Way NE
Seattle, WA 98115

Dear Ms. Barre and Mr. Norberg:

RE: Comments to Proposed Recovery Plan for Southern Resident Killer Whales

I have been a San Juan Island resident for 27 years and during that time I have worked as an educator both in the public school system, and as a marine naturalist, as well as owned and operated my own small boat tour business. I am a member of WSU San Juan County Beach Watchers, which is a stewardship program using volunteer efforts in educational outreach and research assistance. I have a deep interest in and concern for, the natural world and especially flora and fauna in and around the Salish Sea. It is with this same interest I have followed the listing process for the Southern Resident Killer Whales.

Following are a few comments on the draft of The Recovery Plan for the Southern Resident Killer Whales.

Habitat Protection:

*Reopen the discussion on a Northwest Straits Marine Sanctuary.

This idea was presented in the early 1990's and needs to be reconsidered with the information and data that has been gathered since that time. If the Salish Sea is truly regarded as an area to be preserved and experienced by generations to come, then action needs to begin now to designate and officially recognize it as such. British Columbia, in 2003, created the Gulf Islands National Park Reserve in the waters surrounding an area in the Southern Gulf Islands. The time may be right to move forward with a National Marine Sanctuary in San Juan County.

Pollution and Contaminants:

The contamination evident in the bodies of SRKW indicate that the following action is warranted:

*Counties adjacent to watersheds for the area designated as critical habitat should have a ban on use of specific toxins shown to be present in SRKW and prey.

* Identify and regulate sources of contaminants, which affect water quality and implement regulations.

Storm water run off
Septic field leaching

Oil Spill Containment and Prevention:

IOSA (Island Oil Spill Association), a first responder to oil spills in San Juan Islands, needs consideration for specific funding to provide protection of core habitat for SRKW.

*There are considerable needs within this organization for equipment to carry out their mission successfully.

Vessel Effects:

The Be Whale Wise Guidelines are a beginning in that vessel behavior is outlined clearly for ALL boaters, commercial and pleasure.

- Make the voluntary guidelines enforceable regulations
  - There will be a need for funding and establishment of adequate enforcement and provisions for penalties.
  - Public boater education should be formally provided at marinas and marine parks serving the Salish Sea. (Be Whale Wise Regulation brochure and boater education volunteer)
  - Soundwatch coordinator should be involved in input to these regulations to make use of knowledge gained since 1993 in the program.

- Acknowledgement of necessary coordination – Transboundary
    - The SRKW spend time on any given day, crossing the U.S. – Canadian boundary line sometimes multiple times. The efforts expended by the Recovery Plan need to include communication and coordination with our Canadian counterparts to be highly successful in the end goal: delisting SRKW due to recovery.

I appreciate the opportunity to comment on the Recovery Plan for the Southern Resident Killer Whales. Although all areas of the Plan are extremely important, it feels as though some immediate action needs to take place, as well as research to continue to gather knowledge about this very complicated problem.

Sincerely,

Nan Simpson
P.O. Box 171
Friday Harbor, Washington 98250

Southern Killer Whale Recovery Plan Comments

Doug McCutchen
PO Box 1502
Friday Harbor, WA 98250
(360) 378 4239

Education

Education components of the plan can be strengthened using existing programs, facilities, and organizations. Prime entry point locations should be targeted to reach people before they are on the water, participating in whale watching. Being presented with the choice of shore-based or boat-based, as well as best practice guidelines, would go a long way to improving vessel traffic and behavior.

Specific places to target in order of priority:

- Marinas
  - Roche Harbor, San Juan Island
  - Snug Harbor, San Juan Island
  - Deer Harbor, Orcas Island
  - Skyline Marina, Anacortes
- Washington State Marine Parks, emphasizing Stuart Island, Patos, and Sucia.
- Washington State Ferries
  - Signage
  - Tables – incorporate graphics onto the tables on the ferry with id guides, natural history, and viewing options
  - Rack cards

Interpretive programs through parks, contractors (The Whale Museum), or others.

- National Parks
  - signage at American Camp
  - signage and boater education at English Camp
- County Parks
  - Interpretive programs
  - Signage
- Land Bank
  - Interpretive programs
  - Research
  - Signage

Events to target with educational component:

- Fishing Derbies
  - Roche Harbor winter derby
  - Becky Barr/Einar Nielsen derby
  - Regional winter king salmon series
- Sailing regattas
- 'Round the county race
- Others….

Boat Rendezvous
    Over one dozen at Roche Harbor alone.
San Juan County Fair
Parades
    Fourth of July
    Opening boating day
    Christmas
Boat Shows
    Seattle
    Vancouver
Anacortes Ship Wreck days

Local partnerships to fund and foster:
On-the-water
    Soundwatch
    WDFW
    Homeland Security
    Sheriff
    Coast Guard

Organizations
    The Whale Museum
    County Parks
    State Parks
    Land Bank
    Killer Whale Tales

Land Acquisition
Shore based whale watching opportunities are critical in promotion of shore based whale watching. Current availability along whale's common routes is fair. Long term viability of shore based research also necessitates sites in the primary use areas. There are local, nonprofit, and federal agencies working on complimentary programs. Specific organizations include:

San Juan County Land Bank
San Juan Preservation Trust
The Nature Conservancy
Washington Department of Fish and Wildlife
National Wildlife Refuge system
Washington State Parks
The Trust for Public Land

Specific areas needing better coverage:

- San Juan Island
  - Between American Camp and Edward's Point
  - Specifically "Mar Vista Resort" on the eastern point of False Bay
  - Smuggler's Cove Road
  - Property immediately adjacent to the Center for Whale Research
  - County Park's property on Sunset Point
- Henry Island
  - BLM's Kellet Bluff & neighboring properties
- Stuart Island
  - Turn Point Lighthouse
  - "Lover's Leap" and rest of northern half of western shoreline
- Lummi Island
  - Western shore of Lummi Island

Enforcement

Even with all of the educational programs, there is clearly a need to establish some means of recourse for those who will push the limits. The voluntary, community based guidelines have been largely successful, yet lack the "teeth" when needed. A difficult portion of establishing an enforcement regime will be continuing an adaptive management approach.

The current recovery plan does not adequately address two areas needing the greatest education and/or enforcement:

Kayaks

Kayaks are a growing and constant presence around the whales. The craft are quiet and maneuverable and can cover a greater expanse of water than a typical power craft, possibly requiring greater awareness from the whales. Commercial kayak companies continue have pushed boundaries, setting up expectations for their guests of close personal contact with the whales. Guidelines should apply to equally to human powered craft.

Local boaters, especially fisherman

Locals, even those who are well meaning, are the source of great consternation to on the water programs. Locals have a tendency to "know what they're doing," or are fed up with all the whale boats and junk and will do what the "damn well please." Local fisherman are one of the more serious problem groups.

Subject: kayak example
From: DougM <dougm@rockisland.com>
Date: Thu, 01 Mar 2007 14:47:46 -0800
To: Orca.Plan@noaa.gov

Commercial kayak company advertisement:

What are the selling....